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CHILD WELFARE IN SOUTH AUSTRALIA.[1]

By C. O. F. RIEGER,

Retiring President of the South Australian Branch of the British Medical Association.

Children are your riches, and upon their training for well or ill depends the whole order of their father's house.

WHEN it is considered that these words were uttered by Socrates approximately four hundred years before Christ, it is apparent that an appreciation of the importance of child welfare is nothing new.

If, however, we measure civilization by the treatment meted out to children by individuals and States, then the progress of civilization has been but slow and hesitating all these centuries, and subject to many setbacks.

What was the state of child welfare when colonization was commenced in South Australia?

The native inhabitants practised infanticide.

In England, the fate of children was almost as precarious. Dickens portrays very vividly in his novels the lot of children at that time, when, even if the child survived infancy, its future was anything but secure.

The Industrial Revolution brought about a great increase in population, and there were misery and distress, with overcrowding, unemployment, oppression and overwork.

Among the reasons for the formation of the National Colonization Society was the desire to relieve the existing overpopulation, and to provide the opportunity for the poorer members of the community to work, to acquire land and to develop in freedom.

Behind and inspiring this movement was Edward Gibbon Wakefield. Incarcerated in Newgate prison in 1827, his thoughts were turned to prison reform and to colonial reform, and he crystallized the theory of colonization that was first put to a practical test in the settlement of this State.

Before the emigration of the first colonists, some provision had been made for the education of the children of poorer migrants by the formation in London of the South Australian School Society. Mr. J. B. Shepherdson was appointed as the first teacher, and the school was eventually started in 1838 in a room somewhere opposite Trinity Church.

This, however, was not the first school in the new province. On December 5, 1836, under a large tree at Rieves Point near Kingscote on Kangaroo Island, Captain Bromley commenced teaching approximately 40 scholars, his fee being one penny a day. This school was closed when Captain Bromley was appointed Protector of Aborigines by Governor Hindmarsh in 1837.

The early years of the colony were as troubled as those of its children. The principles laid down by Wakefield for the sale and development of land were not adhered to, speculation was rife and bankruptcy followed. The school of the South Australian School Society was forced to close in 1843.

Other schools principally to accommodate children of the wealthier colonists were commenced, those for "young ladies" predominating, and in the face of great difficulties were conducted in a haphazard and generally inefficient manner.

It was not until 1848 that schools considered to be providing elementary instruction for the rapidly growing but poorer section of the population received assistance from the Government in the form of a subsidy to teachers.

[1] Read at the annual meeting of the South Australian Branch of the British Medical Association on June 28, 1950.

The *Education Act* of 1851 embodied the findings of a Select Committee of the Legislative Council and encouraged the establishment and development of public schools by supplementing the income of approved teachers, and by subsidizing the cost of erecting school houses.

The first Inspector of Schools appointed by the State Government was Dr. William Wyatt. As was common with the great pioneers of social medicine, he was a man of liberal outlook and wide outside interests. He arrived in the colony in 1837, coming out as ship's surgeon of the *John Renwick* (403 tons).

To afford some idea of his versatility some of his appointments may be of interest. When Captain Bromley was accidentally drowned while crossing the Torrens, Wyatt succeeded to the appointment of Protector of Aborigines. He replaced Dr. Cotter as Colonial Surgeon when the former was relieved of his position as a result of complaints about the management of the Colonial Infirmary. He was a member of the Board of Management of the Colonial Infirmary, then in succession of the old and new Adelaide Hospitals, and from 1870 until his death was Chairman of the Board. Wyatt Ward perpetuates his name. He was appointed Secretary of the Medical Board in 1844, and Coroner in 1847. He was one of the proprietors of the Church of England School in Trinity Church schoolroom and from its inception a governor of Saint Peter's College.

As Inspector of Schools he displayed great interest and activity, and effected many improvements, but there still prevailed an unsatisfactory state of affairs. In 1875 a new *Education Act* was passed, which made it compulsory for children in certain areas to attend school.

The new Inspector-General of Schools was John Anderson Hartley, who exerted a great effect on the educational system of the State, especially in the training of teachers.

A noteworthy development was the formation in 1905 of the South Australian Kindergarten Union, a body that has exercised an increasingly beneficial influence on the education and welfare of young children.

In 1913 the Education Department began a school medical service, which has slowly expanded its staff and sphere of activities. Opportunity classes were commenced for backward children and now include physically handicapped children, those with defective hearing, children needing remedial treatment in basic subjects, and some who are regaining lost ground after illness.

During the early years of the colony the care of children was largely modelled on the workhouse system of England, with the destitute asylum, industrial schools and orphanages. In all these institutions there was lack of accommodation with consequent overcrowding and ill health.

The destitute asylum in 1858 held 69 children. During the first six months of 1867 the Brighton Industrial School received 165 children, 53 of whom became ill, and of these 12 died.

In the report of this date on the latter institution are published the ration scale and menu. The rations being "thought to be too strong for the digestion of children", the following dietary for children above four years of age was "fixed on":

Monday: soup made from meat and vegetables, suet pudding and treacle.
Tuesday: roast mutton and mashed potatoes.
Wednesday: soup as above, light suet pudding and treacle.
Thursday: Irish stew.
Friday: soup as above, rice pudding.
Saturday: Irish stew.
Sunday: roast beef, mashed potatoes and Yorkshire pudding.
For breakfast and supper: bread, butter and milk.

The matron was to arrange a suitable diet for children under four years of age which would consist chiefly of milk, bread and butter.

Clothing was of unbleached cotton of good quality, flannel being provided on medical certification.

In the *South Australian Register* of February 2, 1869, is a description of the industrial school and orphan asylum just then completed at Magill, and you may care to compare the building with this description.

> It is in the Italian Gothic style of architecture, not elaborately ornamental, is of solid construction, and conveys the idea of a good and substantial building intended to last for a very considerable number of years.

This it promises still to do.

With regard to orphanages, there exist in the archives the original drafts of a letter from Mrs. C. Hussey, headed "Hindley Street" and dated August 18, 1843. In this letter she makes an appeal to be allowed to conduct "an asylum for as many unprotected children as possibly can be done at a trifling expense, recovering them at an early age from the depths of misery, and training them in that path whereby we may hope to see them eventually become useful members of society".

In 1860 an orphan home for girls was opened in Stepney, and six years later the forerunner of the present orphanage of Saint Vincent de Paul commenced in a rented cottage at Walkerville, relieving the industrial school at Brighton of the Roman Catholic children.

Many children were brought into the colony either with their parents or independently. The Immigration Agent, H. Duncan, M.D., in his report in 1855 on assisted immigration, stated that during the three years 1853 to 1855 there were 25,278 migrants, of whom 2006 were children aged seven years or under. In the report it is noted that 418 children died on the voyage to the colony, and it is remarked that "the average number of deaths of children under seven years of age to the deaths of all ages is very great".

The average time taken to complete the voyage in the years mentioned was 102 days.

Following the Irish famine many children were brought out to the colony. Migrant children were mainly dealt with under the provisions of Ordinance Number 8 of 1848, passed "to Provide by Apprenticeship for the Protection, Guardianship and Advancement in Life of Emigrant Orphan Children and of the Poor Children maintained at the Public Expense".

To give you some idea of the conditions then prevailing, the following regulations are quoted from "The Destitute Poor Board Regulations of 1873".

> *Regulation 2.*—No child shall be placed out to service under the age of 12 years.
>
> *Regulation 4.*—Children between the age of 3 and 9 years may be boarded out with approved families. [Miss Clark and Miss Spence were instrumental in securing this improvement.] The sum of five shillings per week was payable for the upkeep of the children.
>
> *Regulation 11.*—Every boy and girl at service shall be entitled to receive as wages:
>
> If 13 years, at least 1/- per week.
> If 14 years, at least 1/6 per week.
> If 15 years, at least 2/- per week.
>
> Not less than three-quarters of this payment is to be remitted to the Board Chairman for banking.

To coordinate many of these activities, in 1886 the State Children's Council was appointed, and it continued until 1926 when its functions were taken over by the Children's Welfare and Public Relief Board.

This Board now has eleven institutions under its control, and it deals with many different aspects of child welfare. A perusal of recent reports shows that it is alive to existing deficiencies as well as to the necessity for continual improvement.

Prior to the inception of the Adelaide Children's Hospital there existed no special facilities for the care of sick children. The hospital was initiated at a preliminary meeting of ladies held in October, 1876. This was followed shortly afterwards by a public meeting; a general committee was appointed, and funds were raised by public subscription and a "Grand Bazaar". With the aid of a Government grant sufficient money was obtained to commence building operations. The first patient was admitted on August 6, 1879, and 168 children were admitted during the first year.

In appealing to the public, the committee stated that "the Medical Faculty in England have pronounced as their

opinion that children cannot be so advantageously treated together with adults", and noted "the success which has attended similar institutions in London, Melbourne, and other places".

Before the opening of the hospital, outdoor dispensaries were conducted in north and south Adelaide, the latter being kept open until 1883.

There is no need to trace the expansion that has taken place in this institution, nor to stress the vital part it has played in promoting child welfare.

Turning now to medical education, there is listed in the University Calendar of 1887, along with other new appointments, as lecturers in subjects of the last three years of the medical course, the appointment of Dr. Edward William Way, as "Lecturer in Obstetrics and Diseases Peculiar to Women and Children".

Nine years later appear the rules for the admission of medical students to the practice of the Adelaide Children's Hospital, but it was not until 1902 that students of the "fifth academical year" were required to attend a course of clinical instruction in diseases of children. The lecturer was Dr. A. A. Lendon.

Recently there has been more time allotted for pædiatric instruction, and better arrangements have been made for utilizing the clinical material available. Students in their fifth year now spend three months in attending clinical instruction in the wards.

In reviewing the vital statistics of the State one finds that in 1844 the total deaths in the province were 164, and of these 87 were those of children under seven years of age. In 1870, of every 1000 babies born 150 failed to survive the first year of life.

At the beginning of this century nine babies in ten survived, and at the present time only three infants in every hundred fail to reach their first anniversary.

The record of the death rate (per 1000 live births regis tered) for the first month of life, however, shows, as in other published statistics, a less continuous and not so pronounced improvement from 32·85 in 1900 to 19·15 in 1949. Most deaths occurred during the first week of life, the common cause being prematurity.

At the present time there exist many institutions and organizations financed and controlled by charitable bodies, often aided by Government subsidy.

The Commonwealth Government gives direct financial aid to parents in the form of maternity bonuses and child endowment, and to the State to assist in hospital and public health activities, and it now proposes to assist nutritional requirements by providing milk for school children up to the age of twelve years.

In December, 1946, there was issued the report of the "Committee of Enquiry for Consolidating the Health Services of the State". Dealing with maternal and child health, it states: "There ought to be a children's division in any Department of Health. The supervision of health of children is fundamentally a public health responsibility." And again: "In South Australia the control of maternal welfare can scarcely be said to exist, while that of infants and children has, up until now, been in the hands of voluntary organizations. These organizations, notably the Mothers' and Babies' Health Association and the Kindergarten Union, have rendered magnificent service to the community."

Recently the Government has set up an Advisory Council on Health and Medical Services and is gradually giving effect to the recommendations of the above report.

When we review the change that has occurred in the attitude to child welfare and note the improvement that has occurred in child health, and then survey all our present and projected activities, we may feel a great satisfaction.

Let not our satisfaction develop into complacency; there is still so much to learn and so much to do.

There is, I think, agreement that more attention should be given to the education of our undergraduates in diseases of children, and greater opportunity be afforded them to become familiar with the normal infant and its require-ments.

The appointment of a Professor of Child Health, as made recently by the University of Sydney, will coordinate and expand the teaching of this important subject and provide needed stimulus to research.

Closer liaison between obstetrician and pædiatrician is essential in teaching and is the first requisite in reducing neonatal mortality. The need for more modern maternity hospitals becomes increasingly urgent with a mounting population and the closing of many of the existing insti tutions because of staff and economic problems.

Those associated with the Adelaide Children's Hospital are well aware of the many additions and improvements that are necessary to deal efficiently with the ever-increas-ing numbers of patients, and with more complex methods of diagnosis and treatment.

The lack of a convalescent home under hospital control is a serious defect and creates many problems in the management of the sick child.

Child health is a social problem almost as much as a medical one. The family diet must be suitably planned and adequate, and families must be well housed if improve-ment is to be expected. There is no need to descant upon the present housing problems, and it is gratifying to note the efforts being made by the Government to remedy the present deficiencies.

The medical branch of the Education Department should be transferred to the Department of Health, the school medical service expanded, and nutrition improved by attaching canteens to the schools to provide balanced and properly prepared lunches.

The care of our mentally defective and epileptic children leaves much to be desired. There should be more coordina-tion of existing services, with provision of better facilities for the care of certain classes of children.

An answer is required to the question whether our present system of education is providing a solid foundation for future citizenship, or merely giving instruction to satisfy examination requirements.

The consideration of these and other problems associated with the improvement of the welfare of children, the economic difficulty of initiating new schemes and of improving those at present existing, leads us to see the necessity for the early appointment of a Director of Maternal and Child Health, as recommended in the "Shannon Report".

We as an association can assist by influencing public opinion and by guiding and assisting the Government to frame and execute plans for the improvement of the welfare of our children.

As individuals let us liberalize our interests, broaden the horizons of our knowledge, and not only assist in the prevention of ill health by medical means, but also interest ourselves in measures to improve family environ-ment in its widest sense.

By doing these things we shall play our part in raising the standard of child welfare, and improving the moral and physical character of future citizens of the State.

THE MEDICAL PROBLEMS OF AGING.[1]

By SELWYN NELSON,
Sydney.

> The days of our years are threescore years and ten: and if by reason of strength they be fourscore years, yet is their strength labour and sorrow: for it is soon cut off, and we fly away.
>
> PSALMS XC : 10.

THERE is nothing more difficult for the pathologist or the clinician than to recognize the difference between normal aging and pathological change in an old person. It may be said that at no stage of life is the process of aging so rapid as in infancy. Man's life span is finite, and it is rare indeed for anyone to survive more than one hundred years. The 1947 census showed only thirty-

[1] Read at a meeting of the New South Wales Branch of the British Medical Association on June 28, 1950.

six persons who had attained this age in Australia. We must therefore postulate a normal life span of up to one hundred years. The process of aging, however, is one affecting different tissues at different rates. The thymus is in decline by the time the reproductive system is in its prime. The placenta is senescent as the child emerges to independent life. Age changes may be demonstrated in articular cartilage in the second decade of life. The homœostatic mechanisms which maintain a constant internal environment become less able to withstand stress as age advances. Ingestion of 50 grammes of glucose is tolerated less well by a normal subject of seventy than it is at age twenty. Most young adults maintain a constant body weight without meticulous counting of the Calories. In later life the body weight increases unless care is taken with the diet, and later still there is a tendency to become the "lean and slippered pantaloon" of the melancholy Jacques. The variations within this broad generalization depend partly on genetic and partly on exogenous factors. The individual at any age is the sum of his inheritance *plus* the environmental, traumatic and infective experiences of his life time. It is a matter of common knowledge that some people retain youthful vigour and health at an age when most of their contemporaries are decrepit or dead. In others the family trait of vascular degeneration manifests itself in premature death from apoplexy. In the present state of medical knowledge little can be done with the genetic factors in their relation to shortening of the life span. Much has already been done to reduce the mortality in early age groups by improved infant management, control of infectious diseases, both by preventive and chemotherapeutic measures, improved surgical techniques and so on.

The medical problems of aging include three major subdivisions: (i) The better understanding of the normal processes of aging. (ii) The control of certain diseases which show a high incidence in the later years of life, and which deprive the elderly of the healthy enjoyment of their latter years. (iii) The contribution that medicine should make to the solution of the social and economic problems of the older members of the community.

The Normal Processes of Aging.

Gavey (1949) made a survey of 360 patients over the age of seventy years. He considers that when a biological death takes place at an old age, the heart, as the prime mover in life, is the primary factor in death. Such biological deaths, however, are excessively rare. Some degree of arteriosclerosis may be regarded as normal in the aged. Some degree of emphysema may also be regarded as normal. Gavey quotes Boyd's observation in 1861 that in old age the heart weight is very little different from that found in subjects in the thirty to forty age group, whereas the spleens and kidneys of the aged are half the weight of those of the young.

Steiglitz (1950) reviews the nutrition of the various age groups. He points out that, in addition to having reduced carbohydrate tolerance, the older groups tolerate hydration and dehydration poorly and have greater difficulty in coping with excesses of acids and alkalis. The basal metabolic rate declines with advancing years. In considering nutrition it is difficult to separate normal from abnormal. The widespread incidence of dental caries and the almost universal edentulous state of the aged are probably both an effect and a cause of malnutrition. Our civilized eating habits likewise probably contribute much to the pathology of old age. It is important to ensure adequate intake of protein, minerals and vitamins for elderly subjects. The total caloric intake should be adjusted to maintain an optimum weight. The dangers of obesity in the aging are very real. In the treatment of the aged the limitations of their metabolic processes should be remembered and care taken to limit the doses of alkalis and other chemicals whose metabolism and excretion may be imperfectly and slowly accomplished in the senile cells of the liver and kidney. Much experimental work remains to be done in order to elucidate the role of the various endocrine glands, especially the pituitary, in the normal processes of aging.

In an extensive review of the literature, Findley (1949) has shown that the neurohypophysis plays an important role in the production of changes commonly associated with aging, such as decreased gonadal activity, hypertension and diminished carbohydrate tolerance. He quotes the experimental work of Heinbecker who denervated the neurohypophysis in dogs. After a few months there was a change in the anterior lobe of the pituitary gland, which contained predominantly eosinophile and chromophobe cells, the only basophile cells remaining being degenerate. At the same time regressive changes were noted in the thyreoid gland, and in the follicular cells in the ovary or sperm cells of the testis. Eosinophilic dominance produced increased activity of the adrenal cortex and a group of target organs including heart, renal tubules and prostate. However, the results of Heinbecker await confirmation. At this stage it may be said that there is some ground for the belief that the nuclei in the floor of the third ventricle may, through the neurohypophysis and the anterior pituitary gland, play an important part in the production of age changes.

Diseases of Significance in Later Life.

The following is a list of diseases which are of significance in later life.

Degenerative vascular disease and its sequelæ: hypertensive heart disease, coronary artery sclerosis, cerebral arteriosclerosis, occlusive peripheral vascular disease.

Neoplasms.

Respiratory disease: especially chronic bronchitis, emphysema.

Locomotor system disease: especially osteoarthritis, painful conditions of the foot.

Degenerative disease of the nervous system.

Endocrine disorders: thyreotoxicosis, myxœdema, *diabetes mellitus*.

Diseases of the uro-genital system: prolapse of the uterus, prostatic hypertrophy, incontinence of urine.

Diseases of the digestive system: cholecystitis and cholelithiasis, peptic ulcer, dyspepsia, constipation, diverticulitis, hæmorrhoids.

The list contains two groups of diseases—those important because of danger to life, and those productive of chronic ill health and invalidity. The most potent killers are the first two—degenerative vascular disease and neoplastic disease. Those which contribute to ill health and invalidity have important repercussions on the economic and social welfare of the aging.

The slogan "to add life to years, not merely years to life" appears on the cover of the *American Journal of Gerontology*. It should be the aim of medical men in dealing with their older patients to help them to attain an active enjoyment of their allotted span, and not merely labour and sorrow.

I do not propose to discuss in great detail tonight the particular diseases mentioned in the list. Much work has been done on the ætiology of the hypertensive diseases, and yet their control seems as baffling as ever. To people accustomed to working with their brains the most tragic of all forms of this disease appears to be that affecting the cerebrum, especially when chronic helplessness or impaired cerebral capacity, rather than death, is the outcome. In the treatment of myocardial infarction some advance in therapy by the use of anticoagulant drugs appears to have been made, but this mainly reduces the incidence of complications.

It is difficult for a mere physician to comment adequately on the position of neoplasms. General measures, such as the use of synthetic œstrogens or the administration of nitrogen mustard, are applicable in very few cases. Certainly increased awareness of the early manifestations of neoplastic disease in the minds both of the profession and of laymen has improved vastly the diagnosis at an early stage of carcinoma, while diagnostic methods in which cytological examination of exudates is used, endoscopic methods and specialized radiographic techniques have proved the handmaidens of curative surgery and radiotherapy. The therapeutic by-products of the atomic age are on trial.

No one dealing with the sick ex-servicemen in a repatriation hospital could under-estimate the importance of chronic bronchitis and emphysema, with its attendant heart disease, so difficult to relieve and impossible to cure. Veterans of the first world war carry on a miserable existence between home and hospital, their lives varying between restricted ambulation at home and complete immobilization in hospital.

Of the locomotor diseases osteoarthritis is common in persons over sixty years of age. Not always productive of symptoms, and productive when symptomatic of suffering and uselessness rather than death, it ranks high in the group of diseases causing invalidity. It is not, however, as unyielding to treatment as commonly considered, and merits closer study for this reason.

Sheldon (1950), in a lecture on the role of the aged in modern society, has drawn attention to the prevalence of painful feet in the aged. Between 40% and 50% of women over sixty years of age are so afflicted, and the incidence in men rises sharply from 18% at age sixty-five to 53% at age eighty. This again is a state of suffering and impaired usefulness which merits attention and treatment.

Diseases of the nervous system may be divided broadly into two overlapping groups—those which present mainly with behaviour changes and which fall within the province of the psychiatrist, and those associated with organic lesions of the central nervous system, coming within the ambit of neurologist or neurosurgeon. Some are secondary to vascular degeneration, some neoplastic and some degenerative. The diseases of long duration are the main problems in the aged—Parkinson's disease, hemiplegia and similar lesions which interfere with independence and mobility. Chronic disorders of the special senses may be mentioned as similar afflictions, depriving the aged of independence—deafness, blindness.

Thyreotoxicosis is not so uncommon as might be thought, and frequently presents in a form not readily suspected —unexplained auricular fibrillation. *Diabetes mellitus* is less difficult to control in the older age groups than in its juvenile form, but may be associated with occlusive peripheral vascular disease necessitating either prolonged hospital treatment or radical surgery of the affected extremity.

Diseases of the urogenital system in the aging pick out such organs as the prostate gland, where hypertrophy may jeopardize renal function. Many elderly women are made uncomfortable by stress incontinence or by a prolapsed uterus.

Of the digestive group of diseases mention should be made of such chronic ailments as diverticultis, gall-stones and piles. Many old people, after a lifetime of poor feeding habits and addiction to aperients, pass into a stage of chronic dyspepsia and constipation.

In general, it may be said that the elderly fall into three groups: the healthy, the chronically ill, and the group with serious or dangerous illnesses. The first group provide medical problems mainly because intercurrent illnesses run a more tedious course, with limitations placed on the therapy by impaired organ efficiency. They may also present the practitioner with special problems of disposal and care when ill. From the preventive aspect the profession should be ready with advice concerning eating habits—the avoidance of excess without unnecessary restriction, the avoidance of fatigue without elimination of healthy and beneficial exercise, and the development of hobbies and recreations against the dangerous time of retirement. The medical problems in the seriously ill group have much in common with the younger members of the community. The chronically ill provide the biggest medical problem. In recent years there has emerged yet another specialty—geriatrics. It is debatable whether there is justification for this. It would be better if every practitioner developed a geriatric section of his work. It is, however, not denied that chronic illness at all ages has not provoked the interest in the profession which attends illnesses capable of spectacular and dramatic remedies. And yet the sum of human suffering derives largely from chronic illness. Frequently one sees patients who have been told the correct diagnosis by their doctors, with the addendum that "nothing can be done for this condition". It is precisely in this group of elderly sufferers that the geriatrician in England and in America has had success —perhaps not spectacular, but with great significance for the individual sufferer. Greenwood (1949) makes a plea for geriatric units to be attached to hospitals, the functions of which should be the review of the older patients and the supervision of active treatment designed not so much to cure as to up-grade the condition of the sufferers. Bedfast patients might be improved to the stage of ambulation, and patients previously considered suitable only for institutional care improved sufficiently for home care. Similarly patients leading a life of dependency at home may be improved to the stage of independence by appropriate treatment. The means by which these improvements may be effected include physiotherapeutic and orthopædic treatment of affected joints and muscles, and the exhibition of suitable drugs for the relief of spasticity in Parkinson's disease. The common factor in all cases is the assessment of the actual basis of the invalidity and the exercise of patient and painstaking care on the part of all concerned so that the desired result is achieved. As a result of this type of care, a patient confined to bed by flexion deformity of the knees, the result of neglected rheumatoid arthritis, will be made ambulatory with the knees straight. This type of care will also bring about the rehabilitation of a patient unable to walk from Parkinson's disease, to the stage at which increased ability to walk makes life less burdensome. It is but a short stage from this salvage work to a concept of interest in chronic disease which aims at the prevention of the more serious forms of deformity and disability.

In making this plea for the care of the chronically ill, I wish to emphasize the fact that chronic illness is much more common in the aging members of the population. In the last fifty years there has been a great change in the composition of the Australian population. In the 1901 census the total population of Australia was 3,773,801, of which 6·02% were aged sixty years and over. In 1947 12·21% (923,824) of the population of 7,579,358 were in this age group. All demographers are agreed that under existing conditions of natural increase there will be a progressive increase in the numbers and proportion of the older members of the population. With increasing financial and social dependence of this group on a progressively diminishing number of young people, serious social and economic problems are raised. The Americans, with characteristic directness of expression, talk of the number of old people "on the back" of the workers. The present tendency to look to the State to bear collectively burdens that previously were shouldered by individual groups, leaves at present an unsatisfied demand for institutions for the care of the old. If satisfied, this demand would impose heavy financial burdens on the public purse, for institutional care is expensive. In any case, unless institutions were staffed by a team of enthusiasts, the institutional care of the chronic sick might well be dreary and unproductive of any real attempts at treatment. There is a need for the provision of facilities for treatment both in home and hospital for this group of the population. Even more is there a need for the fostering in the community of a personal and family sense of responsibility so that the younger members of the family will not regard the transfer of the care of older relatives to the State as part of their concept of the Golden Age.

Conclusions.

The changes in the composition of our population raise many medical problems. Taking the broad view of our responsibility to the community, we must aim to guide the people towards a way of life that will provide maximum health through the longer life span being enjoyed by so many. This includes advice on nutrition, early diagnosis and treatment of illness, and the encouragement of interests and hobbies to carry the individual over from working days to retirement. We must also treat more vigorously illnesses such as rheumatoid arthritis, with the object of preventing deformity and incapacity which

persist after the acute phase of the illness has passed. The medical treatment of the chronically ill must be pursued with fresh zeal so that maximum possible relief is given, emphasis being placed on functional improvement as well as disposal and nursing care. The absence of a specific cure for a disease is no excuse for neglect of the unfortunate sufferer.

Finally we must be prepared to play our part in the moulding of public opinion so that adequate beds are provided for the chronically ill needing hospital care, and for the adequate domiciliary care of the older groups of the community.

The prolongation of life without comfort and a reasonable measure of health is sought by few. We should endeavour to keep the older people properly integrated in communal life.

Summary.

The medical problems of aging are discussed in relation to normal aging and the diseases particularly affecting older people. Special reference is made to the importance of chronic disease and the problems arising from the increase in the proportion of older members of the community.

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MEDICAL PROBLEMS OF AGING.[1]

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IT is said that every age has its grace, and likewise it may be said that old age has its problems.

The young and the old present problems for others to overcome. The former, as time goes on, gradually undertakes the responsibility of solving his own problems, but the latter reacts in the reverse way, and day by day creates problems which become more and more difficult for others to solve.

Within a home, the aged member can remain a useful individual by giving assistance in innumerable ways, and this period of usefulness can be maintained for long or short intervals, according to the constitution of the individual, and the rate of cerebral deterioration, which generally manifests itself sooner or later. This deterioration, resulting in loss of usefulness, is insidious and is frequently not recognized at first. The resultant disharmony due to interference by the old person in what was previously a smoothly running home causes irritation and friction between the other members of the household. In many instances it may be regarded as a late development of the "eternal triangle". If the aged person happens to be the wife's mother, one frequently hears the remark: "The old lady will have to leave, she is too interfering." Thus the problem, "where" is the old lady to go?

Unfortunately mild irritations may be replaced by symptoms more discernible and alarming; for example, efforts of the aged person to reassert his or her former independence. This generally expresses itself in many wanderings by the individual, sometimes far enough from the home to become lost, for a time at least. Much time and worry are caused by looking for the wandering one and the anxiety is still further increased by the knowledge of the dangerous hazards that beset the pedestrian these days; for example, the ever-increasing number of fast-moving vehicles. The slogan that "death is so permanent" arises in the mind of the searcher, together with the knowledge that jay-walking and other breaches of traffic regulations which are the responsibility of the pedestrian will be ignored.

This is also one of the major problems raised by the very young individual, but it can be overcome if care is exercised simply by tying the gate, even with string, as long as it is out of reach of the little fellow. Unfortunately, this problem is not so easily solved in the case of the aged person, as he can easily reach and untie the knots that defeat the plans of the little fellow. Accordingly other plans have to be made in the interest of the aged individual, and these frequently lead to outbursts of senile tantrums, because of the suggestion of being bossed and treated like a child.

The anxiety caused by the wandering and distress owing to the tantrums may have serious consequence and even cause a threatened breakdown, both mental and physical, of the individual who has the care of the elderly one. This is summed up in the expression so frequently heard: "I just could not stand it any longer." The responsibility that causes this state of anxiety can be fully appreciated only by those who have actually experienced it.

Should the above-mentioned difficulties be avoided or overcome, other problems may arise. For example, the aged may break down physically and thus, owing to the loss of physical strength and vitality, it may be necessary for the individual to be kept in bed for long intervals or altogether.

There is no need for me to stress the increase of work and difficulties produced by such a condition in the average household. The difficulties vary, however, with the domestic set-up within the home; such as where there is only one adult woman to do all the domestic work entailed with housekeeping and home duties, without or with young children whose needs must be attended to. The number of young children within the home has to be considered, whether there are other adults or adolescents to share the burdens, and finally the accommodation and domestic conveniences. We see then that these problems brought about by senescence are not standardized, as conditions will never be alike in two homes; apart from conditions and appointments, moreover, the atmosphere in each home differs in accordance with the temperament of the individuals within.

In the extreme cases the aged individuals become faulty in their habits, and this in turn produces more problems involving the economic set-up of the house, mainly in the supply and demand of household linen. In the war years, sheeting and other linens were almost unprocurable and in hospitals, including government hospitals, the shortage produced almost a crisis. What then must it have been like in private homes, or even today in homes of limited means, when in some instances the patient has to be changed two or three times a night.

Occasionally we hear of the difficult situation when an unmarried daughter lives alone with her aged father. The lot of this woman is frequently a most unhappy one, as by advancing age the father becomes more and more dependent upon her, even to the extent of assistance with his toilet and personal hygiene. She finds herself in conflict with her natural modesty, together with thoughts of what her friends and neighbours are thinking, and of loyalty to the aged father, and perhaps of a promise to her departed mother that she would always look after him.

Legal actions frequently begin on account of the fact that after death it has been found that the aged person had, a short time before his death, made a new will affecting former known beneficiaries.

The question of testamentary capacity is raised—often a very knotty problem to solve. There are very many cases of this nature on record, which have caused distress in various ways.

[1] Read at a meeting of the New South Wales Branch of the British Medical Association on June 29, 1950.

Many problems are at times raised by an aged person, such as when a widower of many years' standing with a grown-up family unexpectedly marries a relatively young woman who raises a second family which has to be provided for by the old man, even after his death.

The Problems of Certification.

In many cases of old age the mental condition of the patients is such that they can no longer be kept in the average home and arrangements have to be made for their admission into a mental hospital. In order to do this the requirements of the *Lunacy Act* of 1898, together with its subsequent amendments, have to be satisfied. In most cases this means the aged person has to be certified as insane.

Those who previously had the care of the patient are now confronted with many problems which cause much misgiving and anxiety. This, needless to say, is frequently due to ignorance and bad advice, for those who know least are ever ready to give most advice when these problems arise. Those caring for the patient are worried by ill-advice, believing that they will never get their relative home again. The Government will take all the patient's money and property; they dread the thought of what the other relatives will say and what their friends and neighbours will think. They feel a sense of shame and of guilt and of the heartlessness of their actions.

The family of the aged, as a rule, is scattered, and on account of this some members may not have seen the aged parent for a long time. Thus they are unable to appreciate the mental and physical condition of the patient, and when they hear that he or she has been certified become indignant and resentful and often charge those who had formerly looked after the patient with being heartless and cruel. These charges, mostly without foundation, lead to much bitterness, but seldom will the one who makes the charges undertake the responsibility of looking after the patient. They state their reasons. It is always so easy to see what the other person should do.

The question of certification is often a problem for medical practitioners, who frequently appear to be poorly informed in regard to the requirements of the *Lunacy Act* and are reluctant to give a certificate of insanity, or even to fill in a Schedule 2A. This schedule will admit a patient to a reception house, where most certifications are made.

As a hospital patient, the aged individual presents many problems. It is impossible to "special" every patient, who in a confused state may fall when getting out of bed, and so on, causing injuries and even fractures. This becomes a major problem in hospitals which contain many elderly patients with a minimum of nursing staff.

Again, the senile patient is heavy on clothes, which become dirty, soiled and destroyed. Senile patients can be very destructive to clothing, and relatives often express dismay when they are advised that the one outfit of clothing, which came with the patient on his admission to hospital, needs to be renewed. Occasionally, relatives forget the difficulties they formerly experienced, before they gave up looking after the patient, and unfairly suggest that insufficient care is exercised in this respect.

The question of the cost of keeping a senile patient is a problem in most instances.

The certification of a patient, even if due to senility, can create problems which may not arise until many years later, even after the patient has died. This can best be illustrated by a case that came under notice quite recently.

A young woman, aged twenty years, came to inquire about her grandfather. Although her parents refused to discuss the subject, she said she had reasons to believe that her paternal grandfather had died in a mental hospital, and she wished to confirm this. The young lady had fallen in love naturally enough. Prior to this she had not given much thought to the parental secret, but now it presented a terrifying problem, about which she could obtain no help from her parents. If her grandfather did die in a mental hospital, should she tell her *fiancé*? Should she marry and have children? And, if so, would the grandfather's malady be evident in them?

It is easy to imagine how this lass tormented herself, and perhaps there are many more like her.

Local authorities also are occasionally confronted with problems due to old age when information is brought to them, for example, concerning the behaviour of the old man who lives alone in some remote part of bush on the outskirts of the city or town. By virtue of age he has become incapable of looking after himself, but unfortunately is unable to appreciate this fact; and thus he becomes a pitiful sight to the mature and a terrifying sight to the young. Generally, the police and the government medical officer of health are called upon to solve the problem, which is sometimes made more difficult by the presence and alertness of the old man's faithful dog.

A somewhat similar situation can present itself with the aged couple living alone, without relatives or friends. Owing to mental deterioration, their conduct and behaviour become eccentric and their attitude towards the neighbourhood unfriendly and even hostile. In this condition, known as *folie à deux*, generally one partner is the dominant character, and in the case I have in mind it was the wife.

In the drama of old age tragedy can fill the major role, as the following case notes disclose.

An elderly man of comfortable means who lived with his aged wife and grown-up daughters, had begotten a son by another woman, and, unknown to his wife and family, he provided for the mother and child for eighteen years, until he received word that the mother had died. His lawful wife having passed away just prior to this, he divulged his secret to his daughters. As the old man had no legitimate son, it was agreed to accept the boy as one, and let him live at the home. The women in the home became attached to the boy, and all appeared well until the lad was found dying as the result of an attack on him while asleep by the old man.

Apparently jealousy and remorse for having fallen from grace over eighteen years previously had got the better of the old man, who decided to remove the living reminder.

A son, aged fifty years, single, living alone with his aged parents, was attacked by his father with an ax, while sitting at the breakfast table, and died a few days later. Naturally enough, the son had gradually become the accepted leader in the home, and the trio seemed happy enough until the old man suddenly decided to remove the usurper.

The little toddler sets his parents many problems because his behaviour is unpredictable; and similarly enough, the behaviour of the aged is often just as unpredictable, as illustrated above.

In this paper I make no claims of originality; I merely draw attention to some of the problems that arise from old age without offering any suggestions as to how they may be overcome. To those who have had experience with the problems of old age, either personally or professionally, this paper perhaps will have little interest. On the other hand, to those who have not had such experience it may be both interesting and helpful, for the problems of senescence are fast assuming national importance.

In his series of lectures given recently in Sydney, Professor Crew pointed out that in certain countries, including Australia, the expectation of life had increased considerably during the last one hundred years. This means that there are now more aged people in relation to the working age group, and as the former have to be kept by the latter the task is steadily becoming more and more difficult.

In glancing through several standard text-books on medicine, including editions both recent and old, I find that the subject of geriatrics finds no place in their many chapters. Nor was it contained in the medical curriculum of my days. It seems a strange omission when you come to think of it, for medicine is ever striving to prolong life, yet having attained its objective by producing an old man, it nobly stands aside and leaves him to his fate. The only way left, then, for him to regain recognition is to create problems, and create them he does.

Geriatrics, then, should hold a personal interest for each one of us, for unfortunately it is only senescence that we can truthfully predict for ourselves if we are fortunate enough to remain alive.

Man strives with all his strength and might to attain this end, yet seldom will admit he is getting old, preferring to recognize it only in the other fellow. This in truth is a simple example of the mechanism of projection. From time to time articles touching on the problem of the aged appear in various medical journals, but whether they are read or not is another matter.

It was interesting to note, however, in an issue of one of our daily newspapers this month, a report that the President of the United States had requested a conference of social service officials of that country to discuss the problem of the growing number of old people in America.

The problems of the aging are innumerable, and only a very few have been mentioned in this paper. They are, however, "medical problems of aging" in the truest sense, for when they arise it is always the medical practitioner that is first called upon for help and advice.

DYSTONIA MUSCULORUM DEFORMANS, WITH REPORT OF A CASE IN A CHILD.

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DYSTONIA MUSCULORUM DEFORMANS was the name first given by Oppenheim, in 1911, to a peculiar disease of abnormal muscle tone, previously noted by Ziehen. Since then, cases have been reported sporadically, mainly by German and French writers. Reviewing the world literature on the subject, Herz (1944*b*) was able to collect, to 1941, reports of 188 cases of what were considered to be typical examples of the disease. Critical examination of these showed that a number were not cases of *dystonia musculorum deformans*, but rather closely allied conditions, such as, *inter alia*, Wilson's hepato-lenticular degeneration, chronic epidemic encephalitis and Huntington's chorea, thus further reducing the number of genuine cases reported.

Ætiology.

Dystonia musculorum deformans is a clinical entity, which must be distinguished from "dystonia", a term used rather loosely to describe the disordered muscle tone found in a variety of conditions other than that in the condition under discussion. Also known as torsion spasm, or torsion dystonia, the disease is characterized by a widespread disorder of muscle tone, associated with peculiar involuntary movements, best described as "torsions", which are usually quite distinguishable from the abnormal muscle movements of chorea and athetosis. The disease appears to be predominantly racial, most of the reported cases occurring amongst Jews. It is preeminently a disease of childhood. Herz (1944*b*) describes infantile, juvenile and adult forms, the majority of his cases, however, occurring between the fifth and fifteenth years of life. Smith and Heersema (1941) record three cases, described as "periodic dystonias", becoming most evident after the twentieth year; but as these were of an intermittent nature, the patients being completely well in between attacks, it remains doubtful whether they were examples of true *dystonia musculorum deformans*. Familial forms occur, Beck (1947) recording such an example, whilst Herz (1944*b*) found eight such cases. An occasion on which the disease occurred in each of three siblings has been recorded (Goodhart, 1940). Winkler (1943) describes torsion dystonia occurring in each of uniovular twins. Males and females appear to be equally affected.

Pathology.

At autopsy, most cases display a diffuse, non-specific degenerative lesion of the nerve cells scattered throughout the basal ganglia, in some instances extending to the dentate nucleus of the cerebellum, and occasionally to the cerebral cortex. Herz (1944*c*) maintains that all cases are not idiopathic, and that necrotizing lesions may occur in the basal ganglia, consequent upon hæmorrhage as in birth trauma, intoxications as in profound sepsis, inflammation as in chronic epidemic encephalitis, mechanical factors as in metastatic deposits, and trauma and nutritional deficiencies.

Clinical Features.

Apart from infantile forms of the disease, the onset is usually quite gradual, preceding the typical spasms and lordosis of the established condition by a number of years. The first symptoms complained of are usually involuntary movements or distorted positions of one or other of the extremities. Ford (1937) maintains that the most typical onset consists of spasms of the plantar flexors of either foot, with a tendency to inversion and adduction of the foot. The muscles of the arms and forearms are usually the last to become involved, although occasionally the first signs may occur here, and manifest themselves by causing the patient to appear clumsy and to drop things. At this stage the patient frequently gives the impression that the whole affair is of a psychogenic-hysteriform nature. The muscles of the thigh and the gluteal groups are usually the next involved, and then the pathological process may appear to become arrested for months or years before the typical contractions of the trunk muscles and the platysma commence. When these spasms are well established, the patient presents a typical appearance. At the slightest touch or even at mere questioning of the patient, the affected muscles go into a tonic spasm, causing pronounced lumbar lordosis, flexion of the chin on the neck, torticollis, and various attitudes of the limbs, depending upon which muscle groups are most affected, but most typically extension at the shoulders and elbows, with pronation of the forearms and flexion of the wrists (Figure I). At the same time, peculiar torsion movements of the arms occur, and, if the patient is attempting to walk, he does so in a series of peculiar gyrations, with his hips and knees partly flexed, in order to compensate for the marked tilting of the pelvis, itself consequent upon the extreme lordosis usually present. Viewed laterally, these patients have been described as having a dromedary appearance (Figure II). In the course of time, permanent lordosis, scoliosis, torticollis and *pes cavus* may develop.

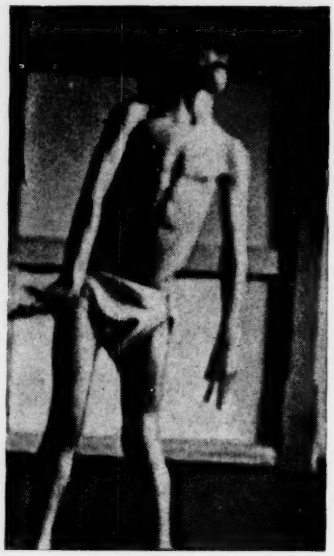

FIGURE I.
View of J.G., showing the characteristic attitudes adopted by the patient when attempting to walk.

It is typical of this disease that the spasms are accentuated whilst the patient is being observed, whereas during sleep normal tone or even hypotonicity of all muscles may be detected. During the actual spasms, the antagonist groups of muscles are usually quite hypotonic, and as the process develops, actual atrophy of these muscles may occur. At no time is there evidence of paralysis, and the muscles of the fingers, the face and the vocal cords remain uninvolved, as do also the sphincters. No sensory impairment occurs, and mentally the patients are quite normal, although eventually some

changes in personality appear, but only to a degree that one would expect of a person suffering with such a chronic disabling affliction. No characteristic ocular signs are described, although Ziskind and Koff (1942) report a case of *dystonia musculorum deformans* with bilateral subcapsular cataracts. It will be seen in the case about to be reported that a mature cataract of the left lens was present from birth.

Diagnosis.

When seen for the first time, these abnormal, prolonged movements of *dystonia musculorum deformans* may be easily mistaken for choreic or athetotic movements. Herz (1944*a*) considers "long-sustained tensions" as being pathognomonic of dystonic movements. He describes choreic movements as being the outcome of excess of motion over tension; athetoid movements as being the outcome of approximately equal participation of excess of motion and excess of energy, whilst dystonic movements result from an excess of tension in almost pure form.

Hysteria, Sydenham's chorea, Huntington's chorea, Wilson's hepato-lenticular degeneration, Parkinson's disease, kernicterus, chronic epidemic encephalitis and

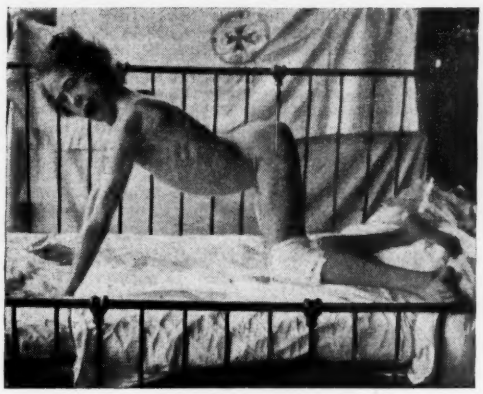

FIGURE II.
Lateral view showing dromedary appearance.

familial paroxysmal choreoathetosis (Mount and Reback, 1940) all have to be considered before a final diagnosis of *dystonia musculorum deformans* can be made. In addition to a detailed medical history and careful physical examination, such ancillary investigations as a complete cerebrospinal fluid examination, hepatic function tests and erythrocyte sedimentation rates should assist in arriving at a correct diagnosis.

Treatment.

There is no known cure for this disease. Hypnotic drugs may be of some use in controlling spasms in the early stages, but the ultimate fatal outcome is unaffected by them. Antispasmodic drugs are of no avail. Surgical section of the extrapyramidal tracts has been attempted, but the results so far do not justify this procedure.

Report of a Case.

J.G., a female child of pure Anglo-Saxon extraction, aged ten years, was admitted to the Brisbane Children's Hospital on July 19, 1949, with a history that after a fall three weeks previously, she had refused to stand for any length of time, and kept holding her head back. For the two days immediately prior to admission, she had been having "turns", which, according to her mother, consisted of holding her head stiffly, arching her back and stretching out her limbs. Previously, apart from a congenital cataract of the left lens, the child had developed normally until the age of four years, when she fell, injuring her left leg; for this she was admitted to the Brisbane Children's Hospital in November, 1943. Three weeks later, she was discharged from hospital, having been diagnosed as suffering from hysterical spasm of the dorsiflexors of the left foot. This state of affairs persisted at home, precluding the child's attending school until the age of seven years, when an alleged amelioration of symptoms allowed attendance at school. During this period, according to the mother, she "walked over on her left heel", wearing out her left shoe on the outside. In April, 1949, the child suffered an attack of pertussis, and it was during her period of convalescence from this disease that the fall occurred which ultimately led to her admission to hospital for the second time. Apart from measles and pertussis, the child had never suffered from any other illness. Gestation was normal, although parturition extended over a period of two days, culminating in a forceps extraction with cyanosis of the infant in the immediate neonatal period. Infancy was normal, the child never having had convulsions. She walked at eighteen months. There was no relevant family history.

Clinical examination revealed an apyrexial, well-nourished, non-cooperative girl, continually grimacing and arching her back. All limbs were held stiffly in extension, although she readily opened and closed her hands. It was noticed that

FIGURE III.
View of the neck, showing spasm of the platysma.

these abnormal movements and attitudes were increased during examination, and tended to disappear when the child was left alone. All the tendon reflexes were equal but exaggerated, and she could not readily flex any of her major joints. Carpo-pedal spasm was absent. No sensory or proprioceptive abnormalities were apparent. The cranial nerves were not involved. A cataract was present in the left lens. No hepatomegaly could be detected, and the cardio-vascular system, respiratory system, and ears, nose and throat all appeared singularly normal. A provisional diagnosis of psychopathic motor dysfunction was made, and the child was admitted to a medical ward.

A six-week period of observation followed, during which the patient continued to grimace, arch her back and extend her limbs, especially when she was spoken to. All these signs disappeared completely during sleep, when normal tone could be palpated in her muscles. During this period the visiting psychiatrist was consulted, and he formed the opinion that her condition appeared to be functional. Accordingly, the child was transferred to the Ipswich Mental Hospital. Whilst she was in that institution it was agreed that her mental capacity did not warrant her remaining there, so on October 20, 1949, after an absence of seven weeks, she was readmitted to the Brisbane Children's Hospital.

Upon this occasion, clinical examination of the patient revealed similar physical findings to those previously found, with the addition that she had lost much weight, her hair had become more sparse, and the frequency, duration and degree of her muscular spasms were greatly increased. Attempted physical examination, and at times mere questioning, was sufficient to cause a typical spasm. This consisted of arching of her back through approximately

180°, the patient thus assuming a position of extreme opisthotonus, whilst at the same time her platysma contracted forcibly, standing out in bands, and causing acute flexion of the chin on her chest, whilst the angles of the mouth became depressed, the lower set of teeth being exposed (Figure III). The upper extremities were strongly extended at the elbows, and the forearms, especially on the left side, were frequently pronated, though the wrist and hand generally did not appear to be involved in the process. In the lower extremities, the hips and knees were extended, and the feet were plantar-flexed and inverted.

When in the erect position, the child walked with a peculiar waddling gait, with her hips and knees partially flexed, to compensate for the tilting of her pelvis. Lordosis was most evident when the child was viewed laterally in the erect position (Figure IV). During these spasms, antagonist groups of muscles remained quite flaccid. At no time was there evidence of sensory impairment, though there was not the degree of pain experienced that one would expect in such a spastic condition.

At this juncture, Sydenham's chorea, encephalitis and Wilson's hepato-lenticular degeneration were considered together with *dystonia musculorum deformans* as possible diagnoses. Under "open ether" anæsthesia, examination of

FIGURE IV.
Lateral view, showing extreme lordosis.

the eyes was performed by the visiting ophthalmologist. He reported a mature cataract in the left lens, and a normal fundus in the right eye. There were no collections of bile pigments (Kayser-Fleischer rings) at the corneo-scleral junctions, as one finds in cases of Wilson's hepato-lenticular degeneration. Under the same anæsthetic, lumbar puncture was performed, clear fluid under a pressure of 170 millimetres of fluid being obtained.

As the child was becoming more and more restless, hyoscine was administered in doses of one two-hundredth of a grain by hypodermic injection, as the need arose. Whilst happy the patient appeared mentally normal, but as time progressed she became more emotionally unstable, developing concurrently a marked addiction to hyoscine, which, to be effective, had to be increased in dosage to such an extent that, at present, the child is receiving, on an average, one-twenty-fifth of a grain of hyoscine per day, in addition to relatively large doses of paraldehyde and occasional dosages of phenobarbitone or "Nembutal".

Over the past few months, the child's condition has deteriorated gradually. She now spends most of her time kneeling in bed, clutching the bed rails with her arms extended, and her back arched to 180° or more. She is now quite untable to walk, and there is much wasting in the hypotonic antagonist groups of muscles. Her lordosis is now permanent, being present to some extent even when she is asleep. Emotionally she is quite unstable. At one period, lithium carbonate was administered in doses of five grains three times per day, with great relief of symptoms. However, over a period of a few weeks, she became completely tolerant to the drug, which was then withdrawn. On February 24, 1950, electroencephalography was performed upon this child at the physiology department of the University of Queensland. The graph revealed that the pathological process has not extended into the cortical zones, but is confined rather to the brain stem and basal ganglia.

The following laboratory tests indicate to what extent this patient has been investigated, in order to substantiate the clinical diagnosis of *dystonia musculorum deformans*.

Cerebro-spinal fluid examination revealed an absence of cells, the presence of sugar, a protein content of 10 milligrammes *per centum*, and a chloride content of 680 milligrammes *per centum*.

The erythrocyte sedimentation rate was 14 millimetres in sixty minutes.

Hepatic function tests revealed a total serum protein content of 6·98 grammes *per centum*, a serum albumin content of 4·0 grammes *per centum*, a serum globulin content of 2·9 grammes *per centum* and an albumin-globulin ratio of 1·6. The plasma cholesterol content was 210 milligrammes *per centum*. No plasma bilirubin was detected. The serum alkaline phosphatase content was 5·8 King-Armstrong units. The result of the serum colloidal gold test was negative. In microscopic determination of the prothrombin concentration, the prothrombin time was thirty-three seconds, the control figure was thirty-three seconds, and thus the prothrombin concentration was 100% of normal.

A full blood count revealed 3,690,000 erythrocytes per cubic millimetre, a hæmoglobin value of 9·2 grammes *per centum*, and a colour index of 0·8. The platelets were normal. The leucocytes numbered 11,300 per cubic millimetre, being made up of neutrophile cells 77%, lymphocytes 18%, monocytes 4% and eosinophile cells 1%.

Summary.

1. A discussion of the ætiology, pathology, clinical features, diagnosis and treatment of *dystonia musculorum deformans* is presented.

2. A six-year medical history is described in the case of a girl of ten years, who is considered to present a typical example of this rare disease.

Acknowledgements.

My thanks are due to the medical superintendent of the Brisbane Children's Hospital, and to the visiting physician concerned, for permission to report this case, and to Mr. G. E. Thomson, of the photography department of the Faculty of Medicine, University of Queensland, for his assistance in producing the accompanying photographs.

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STUDIES ON THE SEROLOGICAL DIAGNOSIS OF SMALLPOX.

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To diagnose smallpox two procedures can be used: demonstration of the virus and serological methods. Paul's test, the inoculation of variolous material onto the cornea of a rabbit, gives good results often, but unfortunately not always. Transmission of the virus to monkeys also enables us to give a reliable diagnosis sometimes. Several authors have obtained good results by inoculation onto eggs, others have successfully used serological methods. These methods, however, cannot be applied in all laboratories.

During the heavy smallpox epidemic in Indonesia the examination of antibodies against the agglutination of blood corpuscles caused by the virus, as initiated by Hirst, proved to be very effective. This method was first put into practice by Nagler (1942) and Clarke and Nagler (1943), who used a virus cultivated on the chorio-allantoic membrane, to study the immunity after vaccination. An extensive study of the theoretical basis of this method was made at the Walter and Eliza Hall Institute for Medical Research, Melbourne.

In Bandung, Collier (1949) proved the remarkable efficacy of buffalo pulp for agglutinating chicken erythrocytes. Collier and van Thiel (1949), Collier, de Cloe-Enklaar and Geiger-Koedijk (1949), and Collier and Meiyer (in the press) examined numerous sera of revaccinated persons and determined the varying titre values of the antihæmagglutinins. They oppose the opinion that the degree of immunity after revaccination can be determined only through the medium of the local reaction. As smallpox is a generalized infection, a humoral immunity must be expected in the first place.

The easiest way of demonstrating humoral antibodies is to examine the antihæmagglutinins. The choice of these antibodies was a rather arbitrary one; it was conditioned by the means at our disposal at the Institute. We fully realize that neither these nor other humoral antibodies exclusively determine the degree of immunity of the individual. As revaccination does but very imperfectly represent the immunity of the skin, so the demonstration of a single humoral antibody can prove only the power of those cell-groups which become active at the immunization to produce antibodies against the virus and to propagate them into the blood-stream. We know practically nothing about the real character of individual immunity. It seems quite possible that certain humoral antibodies contribute to the determination of the degree of immunity, and may be considered as indicators of protection. Experiments on men cannot be made.

But F. and E. M. P. Fenner (1949) at the Walter and Eliza Hall Institute of Medical Research experimented on small communities of mice, studying the effects of an infection with mouse-pox on well-immunized, weakly immunized and non-vaccinated mice. After immunizing the animals with vaccinia virus they determined their antihæmagglutinin titres and exposed them to infection.

Animals with antihæmagglutinins were found to be protected. In those cases in which no antihæmagglutinins had been produced, or their titre in the blood had fallen, the animals behaved like the non-immunized control mice and were susceptible to mouse-pox infection. Fenner and Fenner conclude that antihæmagglutinins, if not the principal anibodies for the protection of mice against mouse-pox, are at least an excellent indicator of the presence or absence of antibodies against infection.

The results of these animal experiments gave magnificent support to the policy followed by the Pasteur Institute since the outbreak of the smallpox epidemic, namely, to advise the keeping of nursing personnel without antihæmagglutinins out of the smallpox wards. As yet no case of smallpox is known to us which occurred in a person who had been examined for antihæmagglutinins with positive results.

The determination of antihæmagglutinins for diagnostic purposes was carried on from the outbreak of the smallpox epidemic onwards. Soon it became obvious that there was a quantitative difference between the antihæmagglutinin titres following vaccination and those which developed in the course of a smallpox infection. In some cases this difference was plain enough to warrant a diagnosis after three to four hours; in others a second examination produced a reliable result.

Method.

The virus used was harvested from buffalo pulp, scraped off after three days and preserved at 5° F. The material was ground in a Chalybaeus mill and then mashed in a mortar with ten times the amount of a salt solution, after which it was centrifuged at 2000 revolutions per minute.

The blood used came from Java chicken. The suspension was regulated at 1·5% in order to get a final concentration of 0·5%. This high concentration of erythrocytes facilitated the reading considerably. A salt solution containing 1% of horse serum, to which formalin was added, was used for dilution.

The specimens of serum were preserved at 5° F., and made inactive immediately before the reaction.

In a preliminary experiment the exact single dose of buffalo pulp necessary for agglutination was determined. The double dose was chosen for a working dose. A set of Wassermann tubes of one centimetre diameter were filled with 0·25 millilitre of doubling serum dilutions beginning with 1:33·3. The final dilution was 1:100 in the first tube after all ingredients had been added (1:10 when the vaccinia immunity was investigated). Then 0·25 millilitre of the double agglutinating virus concentration was added to each tube. The tubes were well shaken and put in an incubator for an hour. Next, 0·25 millilitre

TABLE I.
Antihæmagglutinins in 800 Specimens of Serum of Variola Patients.

Days of Illness.	Titres of Antihæmagglutinins.											Total Specimens.	Geometric Means of Titres.
	1 : 100	1 : 100	1 : 200	1 : 400	1 : 800	1 : 1600	1 : 3200	1 : 6400	1 : 12,800	1 : 25,600	1 : 51,200		
1 to 4 ..	3	3	3	3	2	1	1		1	2		19	746
5	4	7	7	10	12	8	10	4	7	2		71	1131
6	2	5	6	16	13	17	10	10	1	1		81	1056
7	1	3	5	6	8	9	13	10	2	7	1	65	2111
8	1	1	3	7	6	9	7	19	1	3	1	58	1836
9 to 11 ..		2	3	2	7	19	27	22	11	5	4	102	3430
12 to 15 ..	1		1	3	8	13	31	22	17	13		109	4525
16 to 20 ..	1		3		9	15	26	15	14	8		91	4222
21 to 30 ..			1	3	14	27	25	36	20	5	2	133	3677
31 to 70 ..			3	4	8	16	15	11	8	4	2	71	2599
Total ..	13	21	35	54	87	134	165	149	82	50	10	800	2599

of a 1·5% solution of chicken blood was added to each tube. The tubes were shaken again and preserved at room temperature (*circa* 20° C.).

After one hour, but preferably after two to three hours, the results can be read. The agglutination result is considered negative if the deposit of blood corpuscles on the bottom shows a distinct rim, and positive if this rim is irregular and blood corpuscles are visible around it.

The antihæmagglutinin titre is found in the dilution which inhibits completely the hæmagglutination by the double effective virus dose. Serum controls without addition of virus are hardly necessary for the examination of variola serum, for a spontaneous hæmagglutination of chicken erythrocytes in the final concentration of 1:100 has never been found. If, however, dilutions of 1:10 are used, these controls may not be omitted.

Results.

Up to now more than 2000 specimens of serum of smallpox patients have been examined. In several cases the blood of a patient was taken more than once. The serum specimens are chiefly from Bandung and Tjimahi; for comparison we include also those from Batavia.

For 800 specimens only we have the data of the first day of the illness, or the beginning of the eruption. We had to take into account that many patients were admitted to the hospital only relatively late.

Some of the specimens of serum of low titre may originate from patients suffering from diseases other than variola. However, the diagnosis of the attendant hospital physician had to be considered as decisive.

The case of "de P.", who was under observation from the very beginning of his illness, illustrates the development of antihæmagglutinins in non-vaccinated patients. The titres were as follows: September 24, 1:200; September 26, 1:400; September 29, 1:1200; October 4, 1:25,600; October 10, 1:3200; October 17, 1:1600; October 24, 1:3200; October 31, 1:800; November 7, 1:1600; November 14, 1:1600. The titre began at 1:200 and reached its maximum after two weeks, to decline again afterwards.

The results of the 800 reactions of which data were available are compared in Table I. The first four days of the illness have been combined, the fifth to the eighth represented separately; after the eighth day the days have been combined again to avoid too small numbers.

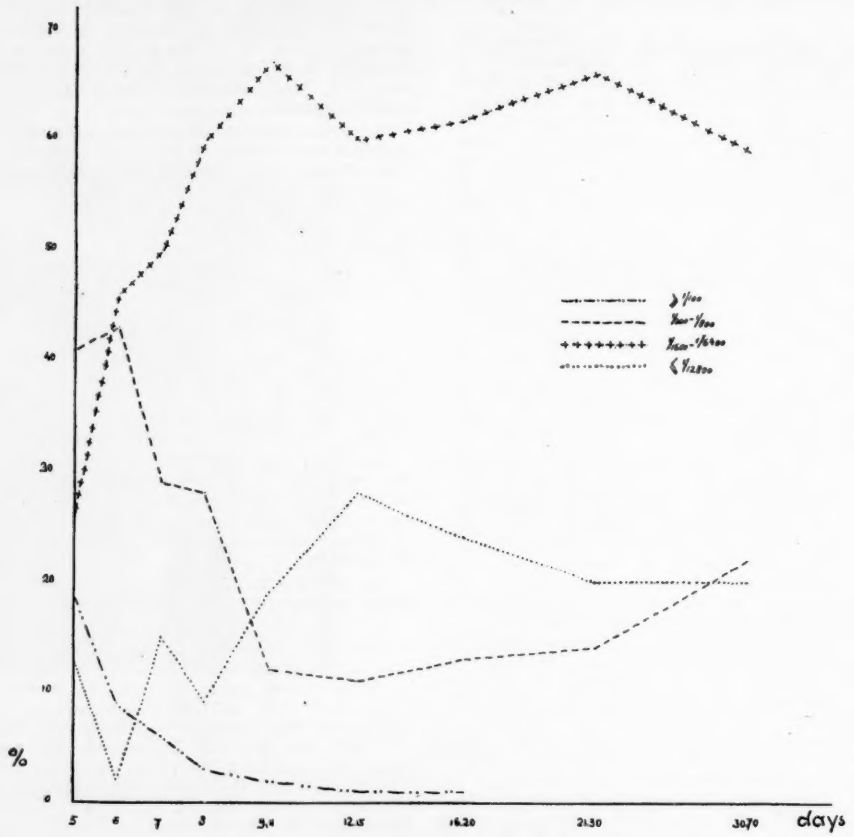

FIGURE I.
Eight hundred cases of variola.

The specimens of serum with a titre lower than 1:100 are found in the first column, those with a titre of 1:100 in the second. Finally the geometric mean value of the titres of the specimens of serum checking hæmagglutination has been determined.

It appears from Table I that at the beginning of the illness the titres may be still comparatively low, although in one case a titre of 1:12,800 and in two others a titre of 1:25,600 was found. As the illness proceeds, the titres rise, and reach their maximum height after twelve to fifteen days. Then a faint decline sets in, although twice we found a titre of 1:51,200 between the thirtieth and the seventieth days (see also Figure I).

TABLE II.

Antihæmagglutinins in 3000 Specimens of Serum of Revaccinated Persons.

Time after Revaccination.	Titres of Antihæmagglutinins.											Total Specimens.	Geometric Means of Titres.
	1:5	1:5	1:10	1:20	1:40	1:80	1:160	1:320	1:640	1:1280	1:2560		
1 month ..	10		9	31	78	132	104	76	61	18	4	523	149
1 month ..	12	1	15	27	78	142	127	69	51	23	2	547	113
2 months ..	12	1	26	63	123	166	122	66	52	12		633	99
3 months ..	5	1	9	48	102	103	48	25	20	4		365	70
4 months ..	8		17	45	64	64	45	8	8	1		260	57
5 months ..	5	2	15	27	64	57	20	7	4	1		202	53
6 months ..	3		13	22	27	29	7	3	1		1	106	43
7 to 12 months	14	7	20	38	43	35	16	9	1	1		184	40
2 years ..	32		6	15	22	18	3	2	1	2		101	43
3 years and more	64	1	2	3	7	2						79	28
Total ..	165	13	132	319	608	748	492	265	199	62	7	3000	86

To distinguish variola from varicella it is most important to know to what degree antihæmagglutinins are produced in men after revaccination. We must realize that during a smallpox epidemic practically everyone has been vaccinated at least once. Clinically it is extremely difficult, during an epidemic, to distinguish a light case of variola from a serious case of varicella. Consequently one is generally impressed that during a smallpox epidemic the number of cases of varicella greatly increases. Actually this may be partly due to more careful observation, partly to wrong diagnosis. The varicella patients have also been vaccinated, and we must distinguish their antihæmagglutinins, which have been engendered by vaccination, from those caused by smallpox infection in variola patients.

Table II compares the titres of 3000 adult persons for whom full details of the last revaccination are known. The first column combines all persons revaccinated less than a month previously. Separate columns have been used for those revaccinated one to six months previously. Revaccinations performed seven to twelve months previously have been grouped in one column, those two years old taken separately, and those three years old and older combined. In conclusion the geometric mean value of the antihæmagglutinin titres has been calculated again.

The antihæmagglutinins reach their maximum before and during the first month after revaccination.

It should be mentioned briefly that seemingly a small percentage of men lack the property to produce antihæmagglutinins after only one revaccination. Here still a problem remains to be solved. A young girl failed to produce antihæmagglutinins after two successive vaccinations with an accelerated reaction, yet produced a titre of 1:80 after the third vaccination. It is also interesting to note that after two years already some 32% of the examined sera failed to reach a titre of 1:10 and that after three and more years 64 out of 79 did so.

The results of the examination of non-vaccinated or non-revaccinated persons are not shown in the table, as we unfortunately have at our disposal only thirteen specimens of serum of adults who refused vaccination. All yielded a negative result in the 1:10 concentration.

Seen as a whole, the second table clearly demonstrates the considerable difference between the titres of vaccinated persons and those of infected ones.

For the sake of clarity, the results are once again grouped together in a graph (Figure II), which compares vaccinated persons one month after their revaccination with smallpox patients till ten days after the beginning of the illness.

It is advisable to recapitulate all difficulties of the diagnosis which might arise. No difficulties are met with if the patient has never been vaccinated. In such a case even a titre of 1:100 points to variola.

If the last vaccination dates from more than three years previously, a titre of 1:800 or higher also points to variola, as such high titres as a result of vaccination have never yet been found after such a long time.

If the serum titre of a recently vaccinated person is lower than 1:3200, the possibility should be taken into account that the antibodies were produced by vaccination only. In this case the serum must be reexamined after two or three days. If the titre is then constant it is hardly likely to be a case of smallpox, and the presence of the antihæmagglutinins must be attributed to vaccination. The same principle is used also in investigating dubious cases of tropical typhus *et cetera*.

In a few cases the following interesting observation was made. Some persons who were seriously ill at the moment of their admission to the hospital had a very low titre

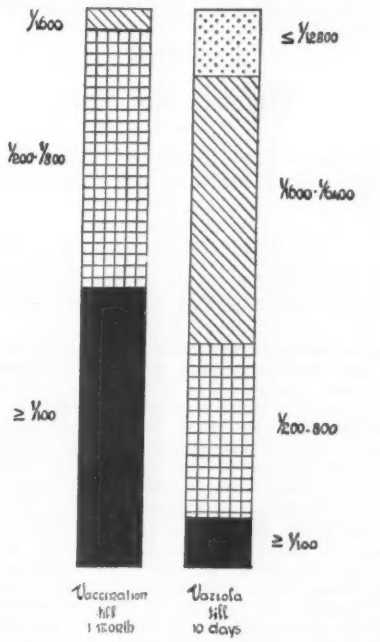

FIGURE II.

which did not rise even after the test was repeated. They died very soon. Their death may be ascribed to a constitutional inability to produce antibodies in a sufficient quantity; it may also be due to paralysis of the antibody-producing system, as a result of the seriousness of the illness. On one of these patients only three smallpox vesicæ were found, the contents of which were used to infect a monkey with smallpox. These cases are rather an exception to the rule. The extremely serious state of illness, however, excludes the possibility of confusion with varicella.

Apart from these exceptions, the examination of antihæmagglutinins has proved to be a valuable support in the diagnosis of variola in Java. It should be mentioned

that apparently a very high titre often accompanies light infections, whereas a comparatively low titre is found with serious infections. Anyhow, it is often difficult to define an infection as light or serious.

Summary.

During the smallpox epidemic on Java the determination of antihæmagglutinins has proved to be useful in the diagnosis. With some caution, confusion with anti-hæmagglutinins produced by vaccination can be easily avoided.

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Reports of Cases.

LYMPHOSARCOMA INVADING THE HEART: A REPORT OF THREE CASES WITH AUTOPSY FINDINGS.

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A BRIEF SURVEY of the literature of cardiac neoplasms reveals that lymphosarcoma with direct invasion of the heart is rare. Despite this, three cases are reported that came to autopsy in three months. According to the classification of Robb-Smith (1938), these would be regarded as examples of reticulosarcoma, the first of the polymorphic type and the others of the small-celled lymphosarcoma type; but the traditional classification is used here.

In Cecil's "Textbook of Medicine" (1948) we find that of 11,100 consecutive autopsies at the Cleveland City Hospital from 1919 to 1939 there were 1082 cases of malignant disease, and of these in 118 cases (10·9%) secondary invasion of the heart and pericardium had occurred. The primary tumour was located, in order of frequency, in the bronchus, in the breast, in the uterus, in the kidney and in the gall-bladder. Next in order of frequency was malignant melanoma. Primary tumours (sarcoma, arising from the mesenchymal elements in the heart walls, pseudomyomata and rhabdomyomata) are less frequent in occurrence. (Porter, 1948.) Lymphosarcoma would appear to be a less frequent cause of secondary invasion.

In "Heart Disease", Paul White also quotes these statistics and the somewhat similar figures of Lymburner (1934). He states that "all kinds of tumours, both primary and secondary, including malignant lymphoma (Hodgkin's disease, lymphoblastoma), have been found in the heart and pericardium".

Willis, in "The Spread of Tumours in the Human Body" (1934), stresses the relative frequency of metastatic invasion of the heart, and distinguishes between this and direct non-metastatic invasion, which can be by contiguity, via the lymphatics, the *venæ cavæ* or the pulmonary veins. He does not mention lymphosarcoma as having been reported as such, but mentions three cases of tumour of the thymus and four cases "with secondary tumour-deposits in the mediastinal lymph-glands", some of which may well have been classifiable as lymphosarcoma.

CASE I.

In 1934 a man, F.J.M., then aged twenty-two years, was admitted to a surgical ward of the Royal Prince Alfred Hospital for excision and biopsy of an enlarged left sub-maxillary gland. The blood count showed normal values for red cells, hæmoglobin content and white cells. The biopsy report stated that in the lymphatic part of the specimen pronounced lymphoid hyperplasia was present, not characteristic but, suggestive of lymphosarcoma.

Again in 1938 the patient was admitted to hospital for excision and biopsy of lymph glands in the left posterior triangle of the neck and the right axilla. The X-ray picture of the chest showed no evidence of mediastinal glands. The biopsy report was as follows: "Reticulum cell hyperplasia and fibrosis. Not diagnostic of Hodgkin's disease, but this disease cannot be excluded with any certainty."

Early in the recent war the patient enlisted, and at his medical examination he mentioned the removal of tumours from his neck. It was concluded erroneously that these had been tuberculous glands, and he was classed fit for service abroad. In 1941 in Egypt he developed recurrent diarrhœa, and was told that it was amœbic dysentery. From then to 1947 he suffered from occasional bouts of abdominal pain and diarrhœa, which he attributed to his war service. On his return to Australia he spent many periods in hospital with only short periods of military service, until in 1943 he was discharged medically unfit with a diagnosis of "colonic instability following amœbic dysentery".

His repatriation records and his statements on admission to hospital in 1949 show that his health had not been good for several years. He had attacks of pain in the left side of the chest radiating to the inside of the right arm, and "sometimes both arms went limp". In 1944 he lost two and a half stone in weight and had occasional night sweats. In 1945 he noticed that his finger nails were beginning to curve.

In 1947 he suffered from a persistent cough with blood-stained sputum and some wheezing after a bout of coughing. Late in 1947 he was admitted to a repatriation hospital for investigation of his diarrhœa and poor appetite. The fractional test meal examination revealed alcohol-fast achlorhydria. An electrocardiographic examination produced a normal tracing. X-ray examination of the chest revealed ragged areas of consolidation of the left hilum and at the lower part of the right hilum. No evidence of disease of the intestines was found.

During his five weeks' stay in hospital it was recorded that he had several attacks of faintness and pallor. These were not explained in terms of any organic disease at the time.

The report on the biopsy of lymph glands at the Royal Prince Alfred Hospital in 1938 became available, and the patient's visiting medical officer, Dr. G. B. Hall, very adroitly summed up the case; first noting the temperature chart, the leucocytosis and the X-ray appearances in the chest, he stated that he suspected a chronic reticulo-endothelial disorder and advised therapeutic trial of a course of deep X rays. Unfortunately there was some doubt in the minds of other consultants about this diagnosis, and annual appeals for acceptance of this "disability" were rejected in 1948 and 1949; this added further to the already heavy "functional overlay" which characterized the patient's attitude.

In April, 1949, the patient was admitted to the ward of the professorial medical unit of the Royal Prince Alfred Hospital from the out-patient department, with a provisional diagnosis of subacute bacterial endocarditis. His symptoms were legion. They included those mentioned above, and in addition, headaches, weakness, giddiness, shortness of breath on exertion such as walking along on

the level, and pain, swelling and stiffness in both hip joints, both ankle joints and the left wrist. The joint symptoms had come on only in the last three months. The duration of the other symptoms was from two to six years. Interrogation also revealed that accompanying the dysentery in 1941, and subsequently, he had had bilateral attacks whose description indicated renal colic, and also that he had been subject to palpitations since that time.

On examination, the patient was a pale, sallow, emaciated man in no distress. He was talkative and fidgeting. Difficulty was experienced in obtaining a consecutive account of his illness. Clubbing of his fingers was present. His left ankle joint was swollen and slightly tender; its colour was not abnormal. There was limitation of movement of the ankle joint. Examination of the chest revealed impaired resonance and broncho-vesicular breathing over the left mid-zone posteriorly. There was coupling of the pulse, the second component being smaller than the first or normal component. The blood pressure was 126, maximum, and 80, minimum (in millimetres of mercury). No dilated veins were seen in the neck. The heart was not enlarged on clinical examination, and no murmurs were heard. The liver and spleen were not enlarged. The urine contained a small amount of albumin.

In the left *fundus oculi* a patch of circumscribed chorioido-retinitis was found. This was considered by Dr. N. McA. Gregg to be almost certainly an old tuberculous lesion. Otherwise examination of the central nervous system revealed no abnormality.

There was a low-grade fever, with diurnal variation of the temperature between 97° F. (36° C.) and 99° F. (37·2° C.).

X-ray examination of the chest revealed enlargement of the heart, especially of the left ventricle, the appearance suggesting previous pericarditis; also some pulmonary emphysema was seen.

Blood examination revealed anæmia; the erythrocytes numbered 3,770,000 per cubic millimetre, the hæmoglobin value was 9·2 grammes *per centum*, and the leucocytes numbered 19,000 per cubic millimetre. The differential leucocyte count revealed a normal distribution.

Two attempts at blood culture in the first ten days resulted in no growth of microorganisms.

The electrocardiogram indicated coupling of the beats due to supraventricular premature contractions, first degree heart block and delayed intraventricular conduction. There was a change in the character of the heart sounds, the development of an apical systolic murmur being noticed about ten days after the patient's admission to hospital. In spite of the absence of some prerequisites for the diagnosis of subacute bacterial endocarditis (a positive result of attempted blood culture, enlarged spleen), the evidence favoured a progressive inflammatory lesion involving the heart, and a course of penicillin was commenced. At this stage the lengthy history set out above was not available, and the patient's failure to give a history which conformed with the usual hospital pattern only led the clinicians to discount the majority of his complaints.

In the ensuing three months the patient rapidly became afebrile and the anæmia disappeared. The leucocyte count varied between 11,000 and 23,000 per cubic millimetre, showing no relation to other clinical signs. The intraventricular conduction was shown in the electrocardiogram to have become normal.

During this period the following investigations were carried out with negative results: examination of the fæces for amœbæ on three occasions; attempted blood culture on six occasions, twice before penicillin therapy was commenced; Wassermann and Kline tests on two occasions; the gonococcal complement fixation test, the Widal test, the Weil-Felix test, the Paul-Bunnell test and serological tests for Brucella—each on one occasion. The Mantoux test produced a positive reaction. An amœbiasis complement-fixation test was performed by Dr. T. C. Backhouse, of the School of Public Health and Tropical Medicine. The result indicated that an amœbic infestation had occurred, but was not indicative of the ætiology of the present fever. Nine urine examinations over this period revealed constant low-grade hæmaturia with occasional leucocytes. Culture of one specimen produced a profuse growth of *Bacterium coli* and scanty diphtheroids.

In July, 1949, while receiving two million units of penicillin per day intramuscularly in eight divided doses, the patient became febrile, coughing was more frequent and blood was seen in the sputum. Examination of the sputum for mycobacteria gave negative results on this and five subsequent occasions. X-ray examination of the chest revealed increased mottling of the right lung field suggesting pneumonic consolidation; the cardiac shadow was seen to be still enlarged. A streptomycin course of 0·5 gramme twice a day was commenced.

Two weeks later, in August, 1949, there was some clinical improvement. The fever had subsided, the leucocyte count had fallen to 6300 cells per cubic millimetre, and X-ray examination of the chest revealed a decrease in the consolidation of the right lung. Successive X-ray films of the chest at weekly intervals revealed no lessening of the enlargement of the heart. The heart shadow was said to suggest pericarditis with effusion, and the right lung markings suggested either congestion secondary to the cardiac condition or an inflammatory process, possibly tuberculous. Radiologically, there was further infiltration of the lower two-thirds of the right lung.

At this stage it was apparent that streptomycin was not controlling the infiltration of the right lung, as it had appeared to do when first given. Streptomycin therapy was suspended after a dosage of 32·5 grammes had been given. One week later (early in September, 1949) fever recurred and was not controlled by penicillin and streptomycin given together. Streptomycin therapy was suspended again. The total dosage of streptomycin was 42 grammes.

Three weeks later (late in September) complete heart block was first noticed and confirmed electrocardiographically. Four weeks later (October), an early diastolic apical murmur appeared in addition to the systolic murmur. The amplitude of excursion of the temperature curve became less, and X-ray examination of the chest revealed slightly less infiltration of the right lung field. A total dosage of 178·3 mega units of penicillin had been given.

Suddenly, in November, while being washed, the patient dropped back dead and did not respond to intracardiac injection of adrenaline.

Autopsy.

An autopsy was carried out by Dr. G. F. S. Davies twenty-one hours after death. Dr. Davies reported as follows.

The body was that of a middle-aged man in a good state of nutrition. *Rigor mortis* and hypostatic congestion were present.

There was some ill-defined tumour infiltration in the mediastinum. Some lymph glands were marbled with tumour growth, but most of the growth was infiltrating the tissues round the glands. There was a tumour-like mass which surrounded the caudal portion of the superior *vena cava* and caused some narrowing of its lumen. It was seen through the endothelium as a smooth, white, glistening and nodular growth. There was similar tumour infiltration under the concavity of the aortic arch between this and the right pulmonary artery. All these areas of infiltration were more or less continuous, one with another, and with the infiltration on the surface of the heart and under various portions of the endocardium as described below. The largest amount of tumour growth was found in the heart. No tumour growth was found in the trachea or œsophagus.

There were about three ounces of straw-coloured fluid in each pleural cavity. The medial surface of the left lung was adherent to the pericardium by fibrous adhesions.

The left lung weighed 485 grammes. On the lateral aspects of both lobes there were puckered areas of collapse which felt nodular. Section through these revealed ill-

defined grey and pliant areas of fibrosis with, in the lower lobe, marginal nodules of tumour growth, one to two centimetres in diameter. These were very pale yellow in colour and slightly lobulated. There was slight peribronchial infiltration, but the bronchial mucosa appeared smooth and shiny throughout. In the upper lobe there was fibrosis extending from the hilum, but no tumour nodules were present in this part. Hilar lymph glands contained no obvious tumour growth.

The right lung weighed 780 grammes; there was some hilar fibrosis in the lower lobe. The anterior portion of the upper lobe was marbled with fibrous bands, and a small (1·5 centimetres) spherical tumour nodule was found at the periphery of the fibrous portion. Several smaller nodules were found near by.

In the heart the pericardial cavity was obliterated by fibrous adhesions. On the anterior aspect of the heart there was seen to be a white plaque-like mass of tumour tissue, about six centimetres in diameter and five millimetres thick. The right atrium was hypertrophied and dilated. There was subendocardial tumour infiltration on the left border of the *fossa ovalis*; it extended on to the adjacent cusp of the tricuspid valve. The right ventricle was hypertrophied and slightly dilated. The muscle had a brownish-red colour. The endocardium was opaque, but there was no tumour infiltration. The pulmonary valve and artery were normal. The left atrium was hypertrophied and dilated, and endocardial opacity and some tumour infiltration were present. The mitral ring would admit one finger. The cusps were greatly thickened and deformed by tumour growth, which formed a large mass replacing part of the valve ring and part of the adjacent cusp. The tumour was mainly on the atrial side of the cusps. When the atrium, ventricle and valve were opened by a longitudinal section the tumour growth was cut through, and the cut surface was seen to be wedge-shaped and to measure four centimetres in a vertical direction and three centimetres in a horizontal plane. The cut surface was moist, had a fibrous grain, and was slightly lobulated. This tumour mass was situated in the coronary sulcus and partly surrounded the heart. It was cut through again when the left ventricle was opened by an anterior incision. In this region it was seen that the tumour extended into the subepicardial tissue on the front of the heart, where it formed the large plaque, six centimetres in diameter, which has been referred to above. There was also a large subendocardial tumour plaque over the anterior and apical portion of the muscular interventricular septum. This measured 6·0 by 1·5 centimetres. The aortic valve and aorta were normal. (The heart was not weighed, but was left attached to the mediastinal structures.)

The spleen was large and weighed 370 grammes. It was deep red and firm from chronic venous congestion. Malpighian bodies were enlarged, but there was no evidence of lymphadenoma.

The liver was enlarged and weighed 2400 grammes. There was pronounced chronic passive venous congestion with a reversed nutmeg appearance.

In the gall-bladder, œsophagus, stomach and intestines no significant change was found.

There was no evidence of dysentery, past or present.

In the pancreas, no abnormalities were detected, and the suprarenals were normal.

In the pelvis, bladder and genitalia there were no significant changes.

No enlarged lymph glands were found in the abdomen.

Microscopic Findings.

Dr. Davies reported as follows on the microscopic findings.

The tumour has a fibrocellular structure, and the degree of cellularity varies in different parts. In the more highly cellular areas the predominant cell resembles a reticulum cell with a relatively large hyperchromatic nucleus.

In most of the cells the nuclei are roughly ovoid and vesicular, but are hyperchromatic. Nuclear membranes are mainly wrinkled, and some are highly indented. The chromatin network is dense and there are frequently large chromatin knots or nucleoli. A few cells have several nuclei and sometimes two nuclei are arranged as a mirror image. Cells such as these have some resemblance to lymphadenoma cells. A very occasional cell may have a large horse-shoe shaped convoluted nucleus resembling that of a megakaryocyte. In addition to these large cells there are very many of smaller size. Some have pyknotic nuclei like lymphocytes, but in many the nuclei are small and vesicular. Lymphocytes are numerous and polymorphs—particularly eosinophils—are present in large numbers. Most eosinophils have bi-lobed nuclei, but in a few the nucleus is spherical though pyknotic.

A large number of cells are elongated and resemble fibroblasts. In the more cellular areas they are few, but in some parts they are numerous. In fibrous zones the majority of cells are almost mature fibrous tissue cells. An interesting feature is seen in the presence of fairly numerous macrophages which are packed with red blood corpuscles. At the margins of the tumour the growth is seen to be invading the myocardium. In some areas it is invading loose œdematous tissue, and here lymphocytes and eosinophils predominate with a few scattered reticulum cells among them. In other parts the tumour cells are infiltrating between atrophic and degenerated muscle fibres.

In the remainder of the myocardium the muscle fibres appear atrophic and degenerated and are separated as though by œdema. In several foci it appears that the supporting tissue may be undergoing transformation into the type of malignant tumour tissue described above.

In the lymph glands from the superior mediastinum, the picture is indefinite.

There is almost complete loss of normal architecture; the cells are mainly mature lymphocytes, but they are more widely spaced than usual. Reticulum cells among them are slightly more numerous than normal, and a few are large and hyperchromatic. Capillaries are more visible than usual. Follicles are loose, indistinct and have no germinal centres. Lymph channels in the marginal and surrounding tissues are packed with cells—about half of them being sinus-lining histiocytes and the remainder lymphocytes and polymorphs.

Bronchus.—Most of the superficial epithelium is missing, but a small portion remains. Between the epithelium and the cartilage there is fibro-cellular tumour growth similar to that seen in the heart. Outside the cartilage there is a very thick layer of fibrous tissue containing lymphoid tissue. In this the reticulum cells are moderately hyperplastic. In the adjacent lung tissue alveolar walls are thick and fibrous.

Lungs.—In the lungs there are larger foci of tumour growth similar to that seen in the heart. Here the reticulum cells are larger and nucleoli are more prominent. Fibroblasts are numerous, but not much collagen has been formed. There is congestion, collapse, fibrosis and slight catarrh in the adjacent lung tissue. Some of the fibrosis appears to be the result of organization of intra-alveolar exudate.

Comment.

The tumour is regarded as a polymorphic reticulum cell sarcoma. The variety of the cellular picture, the fibrosis and the presence of eosinophile cells are reminiscent of Hodgkin's disease. On the other hand, the tumour is an infiltrating one, lymph glands are only slightly affected, and the spleen contains no evidence of Hodgkin's disease. In describing polymorphic reticulum cell sarcoma Robb-Smith (1938) makes the following statement: "This tumour corresponds with many of so-called 'Hodgkin's sarcoma' or malignant Hodgkin's disease."

CASE II.

The patient, A.R.M., a man, aged thirty-one years, mining underground in a metalliferous mine, noticed in April, 1949, that he was growing tired easily, and in July, 1949, while digging post holes, felt a sharp, colicky, epigastric pain radiating to the right iliac fossa. He felt nauseated but did not vomit. The pain recurred and became continuous in the epigastrium. He became breathless on the least exertion, but this did not prevent him from lying down flat.

He was treated in a country hospital for pneumonia by repeated aspirations of fluid from the left side of the chest. These relieved his breathlessness.

After a month unsatisfactory response to treatment necessitated his transfer in August to the Royal Prince Alfred Hospital for further investigation. Interrogation revealed, in addition, that he had a cough but no sputum, and no history of hæmoptysis. He had lost a few pounds in weight. Anorexia had been present for

three weeks, but there was no history of hæmatemesis, melena, indigestion or jaundice. The bowels moved satisfactorily. There were no urinary symptoms. The ankles had become swollen two weeks prior to his transfer to this hospital, and had remained so. No complaints were elicited referable to the nervous system. The previous history and family history gave no noteworthy information. His work was in a very wet part of the mine, but no dust was encountered, and no fellow-workers had been affected by poisoning or complaints similar to those of the patient. He had lived only in central southern New South Wales.

Examination showed the patient to be breathing rapidly and deeply. He was pale and sweating. Examination of the chest revealed classical signs of a massive left effusion obliterating resonance and breath sounds over the lower two-thirds of the left lung field and displacing the mediastinum to the right. Examination of the cardiovascular system revealed rapid pulse rate and displacement of the heart to the right, but no other abnormality. The abdomen was normal, and no abnormality was detected in the urine. No abnormal neurological signs were noted. The chest X-ray film confirmed the results of examination of the chest. The left pleural cavity was aspirated. The fluid was turbid and yellow, the specific gravity was 1,014 and the protein content was 2·8 grammes *per centum*; a small number of red cells and leucocytes, mainly lymphocytes, was present; no organisms were found, and no recognizable tumour cells were evident. The Mantoux test produced no reaction. Intramuscular injections of mercurial diuretics were commenced.

The aspirated fluid was rapidly replaced by more fluid each day, necessitating repeated aspirations. Hæmoptysis and an extensive friction rub on the opposite (right) side were noticed. Anticoagulant treatment was commenced.

The electrocardiogram was suggestive, but not diagnostic, of anterior cardiac infarction.

A week after the patient's admission to hospital, the left upper extremity became greatly swollen, the pressure in the veins being 22·5 centimetres of water above the sternal angle.

The veins of the left side of the neck were distended. Thrombosis appeared in the left axillary veins. There was a mild degree of leucocytosis, otherwise the blood examination gave normal results.

Three weeks after his admission to hospital, the swelling of the left arm had completely subsided and the venous engorgement was not nearly so pronounced. The chest X-ray film revealed gross enlargement of the heart. An attempt to aspirate pericardial fluid produced only pleural fluid, and instillation of 20 millilitres of sterile air gave rise to a transradiant area at the apex of the left lung.

Four weeks after his admission to hospital, the diagnosis was by no means definite. The following were considered likely: (i) mediastinal malignant neoplasm, probably a bronchogenic carcinoma with invasion of surrounding organs; (ii) atypical coronary occlusion; (iii) Fiedler's myocarditis; (iv) post-pneumonic myocardial degeneration.

A week later the liver became swollen and painful. Its surface was smooth. Profuse sweating was noticed on the left side of the face. Œdema of the legs became massive, and drainage by Southey's tubes was commenced. Pleural aspiration was continued, but less fluid was recovered at this stage than on his first admission to hospital.

Two weeks after the onset of hepatomegaly, there was considerable pain in the upper part of the abdomen, relieved temporarily by morphine. The patient died suddenly in October, seven weeks after his admission to hospital.

Autopsy.

An autopsy was carried out by Dr. G. F. S. Davies five hours after death. The report was as follows.

Macroscopic Examination.

The body was that of a young man of spare build. *Rigor mortis* and hypostatic congestion were present. The face was cyanosed. The left arm was slightly œdematous and there was pronounced œdema of both legs.

The thyreoid was normal. No actual thymus was recognized, but its position was occupied by a large tumour growth.

There was a large tumour situated mainly in the anterior mediastinum and in the anterior portion of the upper mediastinum. This formed the largest bulk of the tumour, but it extended on to the pericardium and had infiltrated most of this, particularly on the left side. It extended also on to the adjacent portions of the diaphragm. The sternum was densely adherent to the tumour, from which it was separated with some difficulty. When a section was made through the main tumour in a mid-line sagittal plane, the tumour was found to be firm and rubbery. It was mainly white, but in it there were some softer pink lymph nodes which were cut through when the sternum was removed.

The left pleural cavity contained about three pints of fluid. The right pleural cavity contained about one and a half pints of fluid.

The lungs and heart were left attached to the tumour mass and were not weighed.

The left lung was collapsed and almost completely airless, except for the apical portion of the lower lobe. There were some fibrous adhesions on this side. The lymph nodes on the hilum were enlarged and contained soft pink tumour growth, yet before section the nodes seemed harder than normal.

The right lung contained much more air than the left, and there was an infarct in the lower lobe.

The pericardial cavity was obliterated by fibrous adhesions. Some on the right side were easily broken down, but elsewhere it was difficult to separate the two layers. Practically the whole of the pericardium was greatly thickened by tumour growth, and after the layers had been separated the surface appeared rough and slightly fibrous. There was no excess of fluid in the pericardial cavity, since the cavity was almost obliterated.

In the heart the right atrium contained ante-mortem clot. The tricuspid ring admitted three fingers. The ventricular walls were greatly thickened and infiltrated by tumour growth.

An ante-mortem thrombus was present in the lower part of the inferior *vena cava* extending downward into the iliac veins on both sides. The superior *vena cava* was pressed on by tumour growth, which surrounded it. The right innominate vein was not thrombosed, but there was an ante-mortem thrombus in the left innominate vein, which extended into the subclavian and jugular veins on this side.

The spleen weighed 130 grammes. It was firm and affected by chronic passive venous congestion. Malpighian bodies were not very evident.

The liver weighed 1460 grammes. Pronounced chronic passive venous congestion with "nutmeg" appearance was seen.

The kidneys were enlarged; the right weighed 162 grammes and the left 200 grammes. Pronounced chronic passive venous congestion was present.

In the stomach greatly congested mucosa with an increase of mucus on the surface was seen.

The œsophagus, intestines and pancreas were normal.

The suprarenals were normal, but many lymph nodes in the neighbourhood were enlarged and replaced by tumour growth.

The prostate was normal, as were the brain and spinal cord.

Microscopic Findings.

Dr. Davies reported as follows on the microscopic findings.

The anterior mediastinal mass has microscopically the structure of a lymphosarcoma. The cells are small, and the nuclei are very deeply stained. The reticulum cells are not prominent and show no unusual features. No Hassall's corpuscles are seen. In another section of the same mass there is much more fibrous tissue, and the lymphoid growth is found in small foci.

A small nodule from the parietal pleura (anterior chest wall) shows a lymph node having similar lymphosarcomatous structure.

Heart.—The parts sectioned are almost completely replaced by lymphosarcomatous growth.

CASE III.

An unmarried woman, N.H.M., aged forty years, attended the out-patient department and was admitted to the wards of the Royal Prince Alfred Hospital in September, 1943, complaining of lumps on either side of the neck, first noticed twelve months earlier, but increasing in size more rapidly in the last two months. There was a history of erysipelas of the face four years before, but otherwise there was no relevant previous history or family history. The patient was employed as an inspector in a munitions factory.

On examination of the patient, enlarged firm lymph nodes, attached neither to the skin nor to subjacent tissues, were palpable in both posterior triangles of the neck, in the submental region and in the left axilla. The largest node was about two inches (five centimetres) in all dimensions in the left supraclavicular fossa. Examination of the chest and abdomen revealed no abnormality. A blood count gave the following information: the erythrocytes numbered 4,620,000 per cubic millimetre, the hæmoglobin value was 14·3 grammes *per centum* and the leucocytes numbered 3880 per cubic millimetre. The differential leucocyte count was normal. X-ray examination of the chest revealed some calcified nodules underlying the third right rib and chronic bronchitic changes at the base of the left lung.

Biopsy of the left supraclavicular lymph node was performed. The report on the sections stated that the lymph node showed considerable hyperplasia, that germ centres were still present, though these were large and ill-defined at the periphery, that no Reed cells or eosinophile cells were in evidence, and that the appearance suggested malignant reticulo-endotheliosis rather than simple reactive hyperplasia.

During the next four years the patient attended the deep X-ray therapy department at intervals and was given five courses of therapy to the neck, axillæ and each side of the abdomen. For two years the patient then did not attend the hospital.

In May, 1949, the patient attended the out-patient department and was admitted to hospital, complaining of a bursting headache and a husky voice present for two weeks. Examination showed her to be a pale, middle-aged woman with the veins in the right side of the neck engorged and the right pupil smaller than the left. The right side of the face was colder and drier than the left, and the right *orbicularis oculi* muscle was weaker than the left. A lymph node in the left axilla was palpable, and the spleen was palpable. Examination of the cardio-vascular, respiratory, alimentary, hæmatopoietic and nervous systems revealed no other abnormality. Laryngoscopic examination revealed inflammation of the anterior half of the left vocal cord.

Three days after her admission to hospital, colicky abdominal pain and diarrhœa were present. A temperature of 101° F. (38·2° C.) was recorded, and râles were heard at the base of the right lung. These symptoms and signs disappeared in three days, during which period penicillin was given.

Investigations showed that the blood contained 10·4 grammes *per centum* of hæmoglobin; there were 4100 white cells per cubic millimetre, the differential count being normal; the Wassermann and Kline tests failed to produce a reaction from the blood. Contrast radiographic examination of the œsophagus failed to reveal any evidence of mediastinal swellings. An X-ray film of the chest revealed dulness suggestive of effusion at the base of the left lung, and no evidence was seen of enlarged mediastinal glands. A biopsy of the left axillary swelling was performed. Microscopic examination showed this to be fibrous tissue. Further laryngoscopic examination showed that the larynx was now normal. No pathogenic organisms were recovered from the fæces.

The patient was free of symptoms three weeks after her admission to hospital, except for some pain in the right lumbar region and the right leg, which was ascribed to rheumatism, and she was discharged from hospital.

A month later she was readmitted, complaining that the right lumbar pain mentioned above had become boring in type, and that the legs had become swollen. She also complained of wheezing and breathlessness on exertion, present for about two weeks.

Examination of the left side of the chest revealed classical signs of a large effusion. A rounded, firm, slightly mobile swelling was palpable in the right flank. It was not attached to the liver. Some anæsthesia to light touch and to pain was elicited over the lateral aspect of the right thigh. The plantar and tendon reflexes were normal. The X-ray film of the chest confirmed the presence of massive left-sided pleural effusion, but no cause was noticed for the mediastinal obstruction. In the lower thoracic and lumbar vertebral bodies pronounced proliferative bony arthritic changes were evident.

A week after her admission to hospital, the right patellar reflex was absent, and the right ankle reflex was more pronounced than the left. The cerebro-spinal fluid was examined and found to be normal.

A course of deep X-ray therapy was given, 1050*r* to 1400*r* (skin dose) being given through each of four fields to the abdominal mass. The patient felt well and was sent to a convalescent ward for two weeks, and on her return it was intended to commence nitrogen mustard treatment. Suddenly a fainting attack occurred, in which the skin became cold and clammy, the pulse rate, normally about 100 per minute, rose to 140 per minute, and the blood pressure, formerly 140 and 90 millimetres of mercury (systolic and diastolic readings respectively), fell to 90 and 40 millimetres of mercury. Her condition gradually deteriorated. An irregular intermittent fever began six days after the collapse, which was assumed to be due to coronary occlusion, and the pain in the back became very severe. She died nine days after the attack, in September, 1949—that is, two months after her admission to hospital.

Autopsy.

A post-mortem examination was performed by Dr. A. Himmelhoch fourteen hours after death. He reported as follows.

The body was that of a very emaciated woman. There were some large lymph nodes in both axillæ and groins and a tumour under the right breast. *Rigor mortis* had set in.

The left pleural cavity contained 16 fluid ounces of purulent fluid. There were three white hard masses on the parietal pleural surface measuring 3·0 by 4·0 by 0·5 centimetres. The right pleural cavity contained two fluid ounces of sero-sanguinous fluid. There was one plaque similar to those on the left side on the parietal pleural surface at the level of the fourth rib anteriorly. This appeared to have infiltrated the muscle tissue of the intercostal space, and there was a soft, white tumour in the subcutaneous tissue over this area.

The right lung weighed 445 grammes. It was congested, and there was a dense subapical scar in the upper lobe which had undergone calcification.

The left lung weighed 415 grammes. It was congested, and there were some adhesions from the lower lobe to the posterior parietal pleura. All lobes contained air.

There was a large lymph node in the anterior mediastinum. It was soft and the cut surface was pale. The node was attached to the edge of the pericardium.

There was a white plaque of tumour tissue lying on the visceral surface of the pericardium. Opposite this on the epicardium there was a similar tumour mass extending over the surface of the right ventricle. This had not, as far as could be ascertained, invaded the cardiac muscle. The pericardial sac was completely obliterated, and it required considerable force to separate the two layers of pericardium.

The heart was small and atrophic. The left ventricle was smaller than usual, and the heart muscle was flabby. The mitral valve admitted two fingers. The left atrium was normal. The right ventricular wall was affected by the tumour process, but was otherwise in proportion to

the size of the left ventricle. The tricuspid valve admitted two fingers, and the right atrium was normal.

In the right breast there was an oval tumour measuring two by three centimetres underneath the gland substance. It was white in colour, soft in consistency and not attached to surrounding structures.

There were two large retroperitoneal tumours pushing into the peritoneal cavity and displacing the duodenum and the ascending colon on the right side and the descending colon on the left side.

The liver weighed 1230 grammes. It was of normal size. The cut surface was pale. The portal tracts were particularly pale. The bile ducts and gall-bladder were normal.

The spleen weighed 206 grammes. It was small and fibrotic. The Malpighian corpuscles were prominent.

The stomach and duodenum were normal.

The pancreas was hard and fibrotic.

The right suprarenal gland was completely enclosed in tumour tissue. The cortex and medulla had not been invaded by the tumour, but the latter had surrounded the gland.

Both kidneys were surrounded by this large tumour in the retroperitoneal space. The cortex had not been invaded. The cortex was well differentiated from the medulla. The vessels were not prominent. Both ureters and pelves were also surrounded, but both were still patent.

The bladder was normal.

The intestines were normal.

In the retroperitoneal space there was a continuous tumour mass extending from the diaphragm to the common iliac arteries. The tumour was white and soft, and it had spread around the aorta, ureters and other vessels and had not invaded them. It had infiltrated the perirenal fat and had also invaded the right psoas muscle, which was pale and soft.

In all areas the lymph nodes had similar characteristics to the main tumour mass.

Microscopic Findings.

Dr. A. Himmelhoch reported as follows on the microscopic findings.

In the lymph nodes and tumour masses, the appearances were those of lymphosarcoma. There was slight infiltration of the liver by lymphoid tissue. In the spleen no abnormalities were seen.

COMMENT.

That so rare a disease should have been found in three cases in so short a time is surprising.

In Case I the long and confused history was misleading, and insufficient attention was paid to the reports on lymph node biopsies. The reports on the latter were not definitely indicative of a reticulo-endotheliosis, since they were written prior to the work of Robb-Smith (1938) on the classification of these diseases. The onset of heart block indicated a progressive lesion involving the myocardium, and since this was not accompanied by signs of infarction, it could have led to the making of the correct diagnosis. The pain and swelling in various joints were also misleading, in that they supported a diagnosis of rheumatic carditis on which subacute bacterial endocarditis was superimposed, or a rheumatic attack. This symptom complex has not been adequately explained.

The second case was much more brief, lasting for only six months. Myocardial infiltration, involvement of the left pleura, involvement of the vagus and finally obstruction of the left innominate vein, the inferior *vena cava* and the hepatic vein successively gave rise to the symptoms and signs seen here. The fact that a provisional diagnosis of mediastinal tumour invading surrounding organs was made *ante mortem* is to be commended.

In the third case the diagnosis of lymphosarcoma was established. The terminal collapse was clinically typical of coronary occlusion, and presumably this was due to invasion of the myocardium by lymphosarcoma. The morbid anatomist did not consider that the cardiac tumour had invaded deeper than the epicardium, but this observation does not exclude infiltration of the myocardium with lymphosarcoma cells. No section was made from the cardiac tumour and surrounding myocardium. Even if there was no myocardial invasion, pressure of the tumour in the vicinity of a branch of the coronary arteries can explain the occlusion.

The cell type appeared to have no influence on the course or duration of the disease.

The failure of radiography to demonstrate a mediastinal tumour was general, although in the second and third cases thoracic fluid obscured part of the field. In each case radiotherapy of the mediastinum would have been beneficial, especially in the first case. In the third case, the patient did not attend the out-patient X-ray therapy clinic for two years. This probably allowed the tumour to become widespread, and although X-ray therapy was given for the abdominal masses, no therapy was given for the mediastinal condition evidenced by obstruction of the *venæ cavæ*.

SUMMARY.

1. Three cases of lymphosarcoma with direct invasion of the heart are reported.

2. Brief comment is made on the difficulties in diagnosing this disease *ante mortem*.

ACKNOWLEDGEMENTS.

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Reviews.

CLINICAL ELECTROENCEPHALOGRAPHY.

THE author of a new manual of electroencephalography is the Director of the Department of Neurological Research at the Bethesda Naval Hospital, Maryland.[1] The book is concerned with the clinical evaluation of the tracing and does not delve too deeply into the physiological and electrical problems. There is, however, a useful summary of the physiology and technique in the first chapter. The section on the normal electroencephalogram helps to orientate the reader and shows the range of normal variation. The chapters are divided into two parts: an introductory section which gives statistical and clinical data, followed by a large number of representative case histories and tracings. The introductory sections are short, but contain much information. The statistics generally agree with most published figures and are very useful to those engaged in reporting on records. There are sections on space-consuming lesions, cerebral vascular disease, head injuries, epilepsy and a very interesting chapter with short accounts of various drug intoxications, electroencephalography in children, and behaviour disorders. The layout and printing are very good, and the graphs included are actual records and are not retouched or drawn.

There is much of general interest—the sections on cerebral vascular disease and encephalopathies will concern the general physician as well as the neurologist. The use of tracings to demonstrate the extent of cerebral damage in

[1] "Clinical Electroencephalography", by Robert Cohn, M.D.; 1949. New York, London and Toronto: Mcgraw-Hill Book Company, Incorporated. 8½" x 11", pp. 642, with many illustrations. Price: $14.00.

head injuries and to help differentiate the functional after-effects from the organic is also of general interest. The sections on epilepsy give illuminating figures on the incidence of encephalographic abnormalities in groups suffering from episodes of unconsciousness, syncope and various anomalous symptoms.

Generally this book is of value to those who wish to learn the clinical aspects of encephalography and who wish to take an intelligent interest in the actual recordings.

HANDBOOK OF UROLOGY.

IN his "Handbook of Surgical Urology"[1] Nelse F. Ockerblad sets out to present to wardsmen, dressers and nurses an outline of urology in simple language, together with a brief account of the part they might have to play in pre-operative and post-operative treatment. As such, it could be a useful little book, but unfortunately surgeons are individualists, with differing ways of doing the same thing, and in a volume such as this, there is room for only one method to be portrayed—the author's. Wardsmen and nurses will rarely be able to follow the techniques described unless they should happen to coincide with those laid down by their own visiting urologists. That is not to say that this is a book without use in this country. Indeed some sections are excellent. The first twenty-five pages give a very concise but good account of the history of urology as a specialty, and the next twenty pages are devoted to basic theoretical procedures which are well illustrated. However, urologists in Australia will not agree that "there are few indications for prostatic massage".

The longest section lists the various organs and the ills that befall them, but in such brevity that its value is very doubtful. Brevity and conciseness are again a feature of the ten-page chapter on "preparation and after care". The author's methods are sound, but to devote less than one page to the after-care of patients subjected to prostatectomy and transurethral resection, and yet give ten pages to the complications of pregnancy, is surely unbalanced.

The section dealing with the sulphonamides and antibiotics is well written and up to date, even aureomycin and streptomycin being considered. However, the dosage of sulphonamides given (10 grammes a day on an average) is very much higher than that used in this country for urological conditions, and no mention is made of the modern practice of giving a combination of two or three of these compounds.

This book suffers from the attempt to cover far too much in too few pages, and this is a pity, for one feels that a very useful little book could have been provided. As it is, the book is not likely to gain popularity with those for whom it was written, and it cannot be recommended as nearly sufficient for medical students.

TUBERCULOSIS AND SOCIAL PATHOLOGY.

DR. JOHN B. MCDOUGALL'S book, "Tuberculosis: A Global Study in Social Pathology", is stated to have two aims—to present information on infection, morbidity and mortality from tuberculosis and to analyse factors considered to have a bearing on the extent and severity of the problem in communities.[2] The subtitle indicates that the study is a critical and not purely an epidemiological one.

In the first section of the work, which occupies 160 pages, the mortality rates and other information concerning tuberculosis in different countries of the world are set out. Australia is dealt with very scrappily as part of the continent of "Oceania and Australasia". Summarizing this section of the book, the author concludes that in just over thirty countries is it possible to be reasonably certain of the official statistics on tuberculosis: in many countries the official statistics are at variance with observed clinical and radiological facts and the published mortality rates probably highly misleading. He believes that a group of tuberculosis experts in each country would be able in a very short time to obtain more accurate indications as to the real incidence and mortality of tuberculosis than are ever likely to be forthcoming from vital statistics as they are at present compiled in many parts of the world. He believes that about four million people die of tuberculosis each year.

The second section of the book is devoted to factors influencing mortality and morbidity rates from tuberculosis and special consideration is given to the vulnerable age groups, to variations between east and west, to unrestricted migration, to native and acquired resistance, to the infecting dose and to tuberculosis mortality in successive generations.

There is an important chapter dealing with studies of the mortality from tuberculosis at different ages of "cohorts" or groups of persons born in the same year; from such studies it is concluded that the mortality from tuberculosis in later life of any cohort can be predicted from the mortality experienced by it in childhood.

The third section of the book is a survey with many references to the literature of the means for investigating the tuberculosis problem of a community, and a form of *questionnaire* is given in detail, designed to obtain information concerning the functioning of tuberculosis control in countries, provinces or smaller areas. The author concludes here that mass radiological surveys will become increasingly the selected weapon of the epidemiologist. In this section of the book is collected a great deal of information about environmental factors as the cause of the disease. It ends with a chapter on the organization of tuberculosis services from all aspects.

In the fourth and final section of the book the author seeks to evaluate the problem, which is done under five heads: microbe, nutrition, resistance, environment and "administrative services and real wages". With respect to the nutritional factor, the author utters a warning against the drawing of conclusions from published data about the average caloric intake of populations, and states that food is woefully short in the majority of countries. While his general conclusions are neither novel nor very striking, the book is very informative and should find a place in all central medical and public health libraries.

A HANDBOOK OF PRACTICAL ANATOMY.

LE GROS CLARK'S dissecting manual has now appeared in a new edition.[1] This is some twenty pages longer than the original and contains more illustrations. The intention—to eliminate a great deal of the time consumed by dissection—remains the same as before, and the author is careful to point out that this work is primarily a guide to dissection, not a substitute for the orthodox text-book.

The volume is well produced and well illustrated, many of the figures being from other books. We sympathize with the author's valiant effort to supply a solution to the perennial problems of how much dissecting, or even anatomy itself, is essential to medical students. It is doubtful, however, whether this book has found a satisfactory answer. In our original review we stated that the instructions for dissection appeared to be inadequate to prevent the student from getting lost. That criticism applies equally to the second edition. Further, the aim to provide a fundamental basis for anatomical understanding does not seem to be fulfilled, at least, not for a country like Australia where medical practitioners are frequently expected to be self-sufficient right from the outset of their careers.

PUBLIC HEALTH LAW.

JOHN J. CLARKE'S "Introduction to Public Health Law" is an index to, and a synopsis of, the main sections of the English law associated with public health.[2] It is written in non-legal phraseology as a guide for English public health officials and for students studying for examinations connected with public health. It would appear from this book that the public health legislation of England is similar to that of Australia, but, because of the different governmental framework, most of the responsibility for health administration devolves on the local authority, as against the States in this country.

The book is of little interest to, nor was it written for, Australian public health officials.

[1] "Handbook of Surgical Urology for Internes, Hospital Corpsmen and Nurses", by Nelse F. Ockerblad, M.D., F.A.C.S.; 1949. Baltimore: The Williams and Wilkins Company. Sydney: Angus and Robertson. 7¼" × 5¼", pp. 206, with 52 illustrations. Price: £1 12s. 3d.

[2] "Tuberculosis: A Global Study in Social Pathology", by John B. McDougall, C.B.E., M.D., F.R.C.P. (Edinburgh), F.R.F.P.S. (Glasgow), F.R.S.E.; 1949. Edinburgh: E. and S. Livingstone, Limited. 9¾" × 7", pp. 468, with a few illustrations. Price: 32s. 6d.

[1] "Practical Anatomy: Revised and Rewritten", by W. E. Le Gros Clark, M.A., D.Sc., F.R.S., F.R.C.S.; Second Edition; 1949. London: Edward Arnold and Company. 8½" × 5½", pp. 516, with 268 illustrations, some of them coloured. Price:

[2] "Introduction to Public Health Law", by John J. Clarke, M.A., F.S.S.; 1949. London: Cleaver-Hume Press, Limited. 8½" × 5½", pp. 142. Price: 12s. 6d.

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THE CARE OF THE AGED.

THE care of the aged has been discussed in these columns many times during the past few years. It is one of the subjects which cannot be allowed to rest; it is everyone's business and at the same time no one's. It is true that something is being done about it in different parts of the British Commonwealth, but not nearly enough. It is also true that, though the subject is largely socio-economic, it must concern every member of the medical profession. The prolongation of the life span of the average member of the community has been brought about, in other words the number of old people in the community has been increased, by the practice of preventive medicine. Surely, then, medical practitioners cannot wash their hands of responsibility for the welfare of those whose lives they and their professional ancestors have prolonged. Because of these considerations we welcome the discussion on the medical problems of aging reported in this issue as having taken place at a meeting of the New South Wales Branch of the British Medical Association in June of this year.

In the first place attention should be drawn to the fact that, as is most fitting, Dr. Selwyn Nelson included three major subdivisions in the medical problems of aging. These were concerned with an understanding of the normal process of aging, certain diseases having a high incidence in old people, and the social and economic problems of the aged. No medical man or woman can be said to make a proper, an intelligent, attempt to tackle the whole problem without studying each of these three subdivisions. Medical practitioners who have not up to the present time paid particular attention to this subject are urged to read the papers by Dr. Selwyn Nelson and Dr. G. A. Ross, together with the discussion on them.

In a previous discussion on the care of the aged we divided old people into two groups—those who retain most of their faculties and are able to enjoy a moderate amount of mental or bodily activity, or both, and the more helpless group, some of whom lead what is practically a vegetative existence. For the latter group entirely, and for the former in large measure, the presence or absence of specific diseases implies the presence or absence of a complicating factor—the individual needs care whether he is suffering from a disease with a specific name or not. The real problem is how that care is to be provided, and this is largely a question of money. It does not follow because old people are comfortably off that they can obtain adequate care. Most general practitioners can point to, say, an elderly husband and wife who have a good home and adequate means, but who are in distress and misery because they can find no one to do for them the things that they cannot do for themselves. But, by and large, the old person with means is in happier lot than the old person without, especially if children or other relatives are available and willing to help. Love in this, as in every other human sphere, can inspire unparalleled devotion and service. But—and there is nearly always a "but"—this devotion and service may become slavery, and because they are given and not enforced, slavery most cruel. The daughter, caring for her father, described by Dr. Ross, is typical of many. It is in cases such as this that the medical attendant can and should intervene and try to have conditions changed. There are other occasions on which the medical attendant might with advantage intervene. Let us suppose that a daughter is caring for a father or mother or other relative, and is happy to do so; let us suppose also that the daughter has to be with the old person for the greater part of, or for several hours during, each day; there is no doubt that both daughter and patient (so we may call the aged parent) will be happier in their association if, at least once a year, the daughter is sent away for a holiday to completely fresh surroundings. But let us look at the other picture, of which poverty provides the darkened background. Every medical practitioner is familiar with this picture and knows the difficulties surrounding it. The Government provides an old age pension the acquisition of which is dependent on the observance of certain conditions held by many to be too restrictive, and the sum provided, while it may keep body and soul together, can do little more than this. For those old people who are helpless or almost helpless, and who have no relatives or friends to help them, State homes or hospitals must make provision. Whether the provision at present is adequate is probably debatable, but one thing is quite certain—no institution, however it is run, can alter the character of those who are admitted to it. Old people, men or women, who through fault or misfortune have for years drunk the bitter dregs offered by society as sustaining life-fluid, cannot in a week or two, because of newly acquired institutional care, become regenerate individuals. For all that, those who have seen the results achieved by voluntary workers among these persons, know that there are not many who fail to respond to the human touch, the friendly hand of a would-be brother. Workers of this kind are showing love of the kind that has already been mentioned. In Great Britain there is a body known as the National Corporation for the Care of Old People. It was established and endowed by the Lord Mayor's Air Raid Distress Fund; the Nuffield Foundation has cooperated with the Fund and gives support to the Corporation. In the last report of the Nuffield Foundation reference is made to the National Corporation for the Care of Old People and to the need for cooperation between voluntary and statutory bodies. It is stated that the National Corporation has received

some rebuffs and that there has been a good deal of awkwardness on both sides in the opening courtship for the convenient marriage between statutory and voluntary effort. The work of the Corporation is described as a national task and not a limited parochial effort. This kind of pronouncement should be borne in mind in Australia where perhaps too much is expected of governments once they have displayed practical interest in an undertaking.

The care of old people is, as pointed out on previous occasions, something more than the provision of food and shelter. The preparation for old age, what we may call the preventive aspect, must be mentioned. Old age cannot, of course, be prevented—it can be postponed and medical science has done this for humanity—what can sometimes be prevented are its undesirable accompaniments, its boredom, its aimlessness, its feeling of futility. The retirement at sixty or sixty-five years of age from a position of responsibility of a man who has no interests or hobbies outside his work is a tragedy all too common. In this regard the investigations of J. H. Sheldon are of interest. (See THE MEDICAL JOURNAL OF AUSTRALIA, June 26, 1948, page 797.) Sheldon described occupation as the best medicine for old people and in his survey women showed up to much better advantage than men. Half of the women covered by his investigation did the housework of the home alone up to the age of seventy-five years and even when they were over eighty they were able to undertake a substantial part of the household duties. There is no doubt that one of the most salutary things for an aging person is a sense of responsibility, a feeling that some task, small perhaps, is his or hers alone and that others will be inconvenienced if the task is not carried out. The best preparation for old age, for women as well as for men, is the cultivation of hobbies or even of profitable occupations that do not call for the expenditure of much time and energy.

A final point to which reference must again be made is statistical. In this journal on September 28, 1946, reference was made to an article by A. S. Parkes, in which he pointed out that in 1901 men over sixty-five years of age and women over sixty formed 6% of the population of England and Wales; in 1941 the figure was 12%. Parkes estimated that in 1971 the figure would be 21%. He also stated that a white paper on national insurance contained an estimate that in 1946 there would be 15 pensioners for every 100 contributors, but that in 1970 there would be 32 pensioners for each hundred contributors. No one can believe that the figures for Australia would differ a great deal from these. A discussion on what should be done about this cannot be attempted at present; it is a subject which demands the attention of every Australian government and of every intelligent person in the community.

Current Comment.

DR. ALFRED COX TELLS HIS STORY.

BIOGRAPHY was stated by Carlyle to be the only true history. In a small book written by Dr. Alfred Cox, who was once Secretary of the British Medical Association, we have not only the story of a life of service and devotion to the cause of a profession, but an insight into the history of that profession's corporate body from the point of view of one of its officers who helped to guide it in anxious and momentous times. Dr. Alfred Cox became Deputy Medical Secretary in July, 1908, and retired from the secretaryship in 1932 after the celebration of the association's centenary. The book is an autobiography rather than an historical contribution, but it is the historical glimpses afforded by it to which we would draw attention. It is a book to be read by every office-bearer in the Australian Branches and by all those who realize that they are part of a world-wide organization pledged to do certain things for medicine and for its practitioners. The Australian Branches were never visited by Dr. Cox, but he is known to many Australians who have visited England. He introduces his readers to many of the association's leaders and recalls to their minds others whom they have known. Particular interest will be taken in the chapter entitled "Lloyd George and National Health Insurance". The story recalls the atmosphere of latter day discussions and shows that medical practitioners are not a bit better than any other social group when they allow their passions to get the better of them. The mass hysteria and the venom displayed towards Smith Whitaker and Victor Horsley were utterly deplorable and serve to remind office-bearers of the association that many of its adherents are fair-weather friends and little more. But this is one of the regrettable aspects of the story. We read of Brackenbury and Bolam, Hawthorne, Dain and Bishop Harman, to name but a few, and we feel a glow of appreciation. The tale of B.M.A. House in Tavistock Square is told and there is mention of the presidential chair given to the Parent Body from the Australian Branches "in token of kinship, loyalty and goodwill". We are not told that their chair was presented on behalf of Australia by the late William Nathaniel Robertson, of Brisbane, for many years a member of our Federal Council. Robertson himself made the chair and his friends remember how justly proud he was of it. A tribute is paid to Robert Henry Todd, "a man of great charm and character". Dr. Cox includes a chapter: "What is the British Medical Association?" We would that it could be read by every intelligent Australian. This chapter concludes with a quotation from *The Times* of July 13, 1925: "The B.M.A. has become in the life and activities of British physicians what the Bank of England became, long ago, in the world of finance."

FOOTBALL INJURIES.

FOOTBALL INJURIES, while not perhaps so common as is feared by the mothers of small boys, occur often enough, and their frequency is matched by their variety. Recently the Sydney Press reported the near-drowning of a footballer who remained face-downwards for an appreciable period under a heap of his fellows, the ground surface consisting of some eight inches of muddy water. Injury of footballers by their being struck by lightning during play was mentioned in these columns on July 23, 1949. But these are the casual incidents. For the professional footballer injury is a more serious matter. His particular problem is of less direct interest in this country than it is in England, but many of the associated points, recently discussed by W. G. S. Pepper, A. T. Fripp and W. E. Tanner,[1] are of general application. Pepper, Fripp and Tanner are medical officers for the well-known Arsenal Football Club in England, a club which takes its players' physical welfare so seriously as to maintain a fully equipped physiotherapy and rehabilitation department, with a manager and trainer—both old players—who are experts in physiotherapy and rehabilitation. The usual injuries are those of skin, muscles, ligaments and joints; fractures are relatively rare. Skin injuries, even slight abrasions, are taken seriously, as are apparently minor injuries, special care being taken of the "tough" player who minimizes the effect of damage done. With muscle,

[1] *The Practitioner*, April, 1950.

joint and ligament injuries the parts are always put at rest for twenty-four hours and reassessed in the light of whether sufficient training will be possible in time to allow play in the next match. Typical muscle injuries are "pulled" muscle (rupture of fibres of the muscle belly with or without tearing of the sheath), intramuscular hæmatoma, and *myositis ossificans* in the adductor or quadriceps group. "Pulled" muscle, most common in the *rectus femoris*, follows indirect violence and causes pain in the muscle with inability to run or kick or to hit the ball; rest is essential, heat and gentle active movements help, but complete recovery (which is essential before full training is resumed) takes at least three weeks. For intramuscular hæmatoma aspiration has not been very helpful; recovery must be allowed before play is resumed and calcification may be looked for occasionally as a complication. *Myositis ossificans* is serious and may put a player out of football; it follows repeated strains, and is probably not preventible except by complete rest. Another condition is development of a painful fibrous mass in front of the *tendo Achillis*; it may be possible to excise this with complete success. "Heading" the ball apparently causes no harm except in rare individual cases. Knee derangements are the commonest injuries. Points in the player's favour are the high degree of development of his quadriceps and his training in timing a tackle and bracing his muscles for an impact. The injury usually occurs when he is off his guard or is tackled incorrectly; the degree of trauma bears little relationship to the severity of the injury. Osteoarthritis often follows repeated minor injuries. The diagnosis of football knee injuries is the same as those from other causes. The main distinctive point in management is timing the exploration of the knee to ensure complete recovery as quickly as possible. Pepper, Fripp and Tanner feel that meniscectomy should seldom if ever be undertaken immediately after the first injury. Many other practical points in this paper might be outlined, but those specially interested are referred to the original. One or two interesting psychological points relating to the professional footballer may be mentioned in conclusion. Rehabilitation is made easier because the game is his life and his living; Pepper, Fripp and Tanner support the value of allowing the trainer to attend injuries on the field of play and the effectiveness of a sponge full of cold water on the face or back of the neck in helping a player to carry on. The emotional and psychological background of an injury is most important, as nowadays "professional football has become a combination of sports and show business which throws upon those taking part in it the strain, not only of an athlete, but also of a film star". Players worry about "letting down their public" and also about not having their contracts renewed. In some ways these psychological factors, or their equivalents, will affect even the amateur player who takes his play seriously and may be overlooked to his detriment. Apparently the Arsenal Football Club takes them as seriously as it takes physical injuries, with advantage to club and players.

ANTICOAGULANTS AND THE CONTROL OF THROMBOSIS.

THE great interest taking during recent years in the application of knowledge of the mechanism of coagulation of the blood to the prevention of venous thrombosis and embolism has been somewhat tempered by difficulties in controlling the action of the agents used. Heparin has been firmly established by reason of its multiplicity of action on the enzymic and other factors in coagulation. Dicoumarol, simpler to administer, is irregular in action and needs careful supervision; in addition, its chief effect is upon the activity of prothrombin. It has been observed that even reduction of the prothrombin concentration of the blood to 20% or 30% of normal, though usually effective in producing the desired result, does not always secure the patient against the risk of embolism. Indeed this risk is not removed even with the greatest care in supervision, as embolism still occurs "out of the blue" in a disconcerting proportion of cases in well managed clinics. In a series studied by Joseph B. Vander Veer, P. T. Kuo and David S. Marshall 40 out of 222 patients had pulmonary embolisms in spite of the absence of any signs of peripheral thrombophlebitis.[1] This is partly explained by the autopsy finding that soft clots can often be demonstrated in proximal veins. The patients studied were those who had evidence of venous thrombosis or of embolism or of both, and were seen in consultation in a large general hospital. Some were treated with anticoagulants; these were in the main in medical and gynæcological or obstetric wards, and were considered suitable for heparin and dicoumarol. Another group had been treated by ligation of the femoral veins. A third group had no specific treatment; most of these died without warning from massive pulmonary embolism. Modifications of Howell's test for coagulation time of the whole blood, and of Quick's test for the prothrombin time of the plasma were used. Heparin was given in doses of 50 milligrammes every four hours, with an initial dose of dicoumarol. Further prothrombin time estimations decided the continuance or otherwise of administration. When the prothrombin time reached 30 seconds or more administration was usually stopped. The authors publish a graph in which the increase of the incidence of thrombosis and embolism in the Pennsylvania Hospital in the last five years is shown. This is, of course, really an indication of the greater acuteness of the clinical conscience in the recognition of these important conditions. The signs and symptoms were studied, and it may be remarked that local signs such as tenderness of the legs, dilated superficial veins, and some swelling or pain were common. The occurrence of silent proximal thromboses has already been mentioned; the authors also note that a number of medical and surgical conditions predispose to "primary" pulmonary embolism. Their studies have convinced them that a moderate prolongation of the prothrombin time, such as the level suggested as a general therapeutic standard, is not sufficient to serve as a gauge for the control of all these dangerous episodes. In a few instances they pressed the administration of dicoumarol until the prothrombin time was raised to between 40 and 55 seconds. Only a few instances of untoward reactions were observed, but hæmorrhage did occur in these; the number, six patients, is not very large. Follow-up of the successfully treated patients has shown that they have remained free from thrombotic troubles. These observations confirm those made elsewhere, and emphasize the thoroughly individual nature of the attention necessary for patients who may be threatened by the serious effects of venous thrombosis. The prophylactic use of anticoagulants is established and growing in extent, but the adoption of a routine procedure for this purpose cannot free the physician or surgeon responsible from the duty of individual judgement.

Another aspect of the subject may also be mentioned. When heparin is given intravenously in repeated doses, phlebitis or hæmatoma formation often gives the patient a considerable amount of discomfort; continuous infusion also has its technical difficulties. M. S. Tuchman and S. E. Moolten have followed the method of Hechter in using hyaluronidase to prevent these troubles, chiefly in controlling the pain of subcutaneous injections.[2] They report that this enzyme, which has the power of increasing the permeability of connective tissues, is very effective in conjunction with subcutaneously administered heparin. They state that this route of administration is usually as satisfactory as the intravenous route, the desired changes in coagulability being obtained and maintained without personal discomfort. Doses of heparin up to 100 milligrammes can be given with good therapeutic effect and without pain if the area to be used is first infiltrated with a hyaluronidase solution. The method sounds promising.

[1] *The American Journal of the Medical Sciences*, February, 1950.
[2] *Ibidem.*

Abstracts from Medical Literature.

SURGERY.

Cerebral Angiography.

OLLE OLSSON (*Journal of Neurology, Neurosurgery and Psychiatry*, November, 1949) discusses the reactions to substances used in cerebral angiography. He states that the commonest reaction is a slight temperature rise for two or three days after the injection. Sometimes an allergic reaction is noted, particularly in the skin of the face. The most serious complication is an increase of cerebral symptoms. The author suggests that this reaction is due to the substances altering the permeability of the vessel walls. This is more likely if strong solutions are used or in the region of some underlying physical condition. This investigation shows that serious complications are not common, particularly if strong solutions are not used.

Acute Pancreatitis.

L. J. MORSE AND SAMUEL ACHS (*Annals of Surgery*, December, 1949) have analysed 154 cases of acute pancreatitis. The presence of fat necrosis has been taken as the diagnostic criterion of the presence of acute pancreatitis. The ætiological factors are discussed. The authors state that clinically acute pancreatitis is not a primary disease. Biliary calculi are present in half the cases, biliary disease in three-quarters. Injury to the pancreas and obstruction to the ducts are especially effective in the production of acute lesions if the gland should be in full secretory activity. Acute interstitial pancreatitis or œdematous pancreatitis is regarded as a milder form of acute pancreatitis—hæmorrhagic, necrotic or suppurative. In the authors' series 76% of the patients were females, though others have observed a predominance of male subjects. Half the cases occurred in the fourth and fifth decades. Almost all the patients gave a history of some form of dyspepsia; 63% had a definite history of biliary disease. The authors state that constant epigastric pain is the most frequent symptom encountered; it occurs less often in the right hypochondrium, the left lumbar region and the left hypochondrium. The pain is splitting in character and is intense. Vomiting is persistent, though never progressive or fæcal, and is usually relieved by one gastric lavage. Shock, collapse, cyanosis and dyspnœa occur. Constipation is usually present, though not complete. The abdomen is silent and paretic. The condition is to be diagnosed from acute empyematous cholecystitis; in this the mass attached to the lower border of the liver is usually palpable. In 7% of the cases of acute pancreatitis acute cholecystitis was present at the same time. The mass can usually be palpated in rupture of a diseased gall-bladder into the peritoneal cavity. This may well be associated with shock simulating acute pancreatitis. Acute intestinal obstruction, despite the early shock, can usually be distinguished by the early visible peristalsis, the progressive vomiting, the painless abdomen, the absence of epigastric and left costovertebral tenderness, and the absence of malar flush. A careful history and examination of the urine may be necessary to exclude renal colic, torsion of a ptotic or ectopic kidney, or carbuncolosis of the kidney. In these also the toxæmia, the shock, the flush, the paretic abdomen and the characteristic epigastric tenderness are missing. A perforated peptic ulcer, with its antecedent ulcer history, board-like rigidity and scaphoid abdomen, absence of midepigastric tenderness, early signs of spreading peritonitis, obliteration of liver dulness, expiratory grunt and absence of malar flush, can usually be distinguished. Coronary and cardiac disease can be excluded by a preexisting cardiac history, the liver tenderness of right coronary closure and an extremely hypersensitive abdominal wall. In the early phases of acute pancreatitis there is elevation of the blood amylase content. After the first forty-eight hours the blood lipase content is of greatest value. The urinary diastase level may rise from the normal 30 units to 200 units or more. After the fourth day estimation of the blood calcium content is of prognostic significance; a figure below seven milligrammes *per centum* is usually associated with a fatal result. In treatment surgical intervention is reserved for the cases in which the diagnosis is not clear, when peritonitis is pronounced or abscess formation is present. Conservative measures are directed to halting trypsin digestion—starvation and gastric suction—to the relief of pain by opiates and procaine injection of the splanchnic nerves, and the restoration of the normal blood volume and concentration. If glucose is given, sufficient insulin should also be given to prevent stimulation of the pancreas. Nervous stimulation should be lessened by the use of atropine and ephedrine. The hypocalcæmia will require adjustment.

Bleeding from Œsophageal Varices.

T. B. PATTON AND C. G. JOHNSTON (*Archives of Surgery*, September, 1949) have used an inflatable balloon to control bleeding from œsophageal varices. A tube with four lumens and two balloons is used. It is passed into the stomach, its position being verified by aspiration. The lower balloon is then inflated to a diameter of three inches. The tube is withdrawn till it fits snugly into the cardia. The upper balloon is then inflated, the proximal end of the tube is taped to the nose, and the whole is left in place for twenty-four hours with constant suction. Thrombin may be administered by the remaining lumen to just above the upper balloon. The upper balloon is deflated after twelve hours, and if there is still bleeding it is reinflated. If there is no bleeding the tube is left in place and the patient is given sips of water.

Closure of Patent Ductus Arteriosus.

H. WILLIAM SCOTT, JUNIOR (*Surgery, Gynecology and Obstetrics*, January, 1950), reports on the 180 patients with patent *ductus arteriosus* who have been operated on at the Johns Hopkins Hospital from 1942 to 1948. He states that since Gross in 1938 performed the first successful closure of a patent *ductus arteriosus*, there has been general agreement on the beneficial results of the closure, but some difference of opinion as to the best method of closure. Gross used simple ligation of the ductus in his first 14 patients, but abandoned this in favour of employing "Cellophane" in conjunction with ligation in his next 29 patients. In 1944 Gross reported 14 successful divisions of the patent ductus and since that time has used complete division in a large number of patients. It is his belief that division is the procedure of choice in the majority of cases of patent *ductus arteriosus*. In 1946 Blalock first used the method of multiple suture-ligation without division of the artery. He was of the opinion that division and closure could be satisfactorily accomplished without subjecting the patient to so much danger from uncontrollable hæmorrhage. Suture ligation has now become the standard method of closure of the ductus at Johns Hopkins Hospital. A summary of the technique is given by the author. Altogether 161 patients have been subjected to closure by this method with two deaths and no instances of recanalization. Gross has reported 181 complete divisions with only four deaths, none of which was from hæmorrhage. Obviously in his hands division of the ductus is a safe and definite method of closure. But the method of suture-ligation, by its inherent simplicity and safety, may lend itself more appropriately to general application than a technique of complete division.

Thoracic Diverticula Originating from the Intestine.

ROBERT E. GROSS, EDWARD B. D. NEUHAUSER AND LUTHER A. LONGINO (*Annals of Surgery*, March, 1950) report three cases of unusual nature; the patients were two infants of three and a half months and four months respectively and a child of four years, each of whom had a long hollow structure within the chest, which proved to be an elongated diverticulum which came through the diaphragm and which was found to have an origin from the small intestine. The authors had not previously encountered such an anomaly, nor have they found descriptions of it in the literature. In each there arose from the duodenum or from the jejunum a side arm, which left the intestine at right angles and coursed upward to the right crus of the diaphragm, which it pierced. Parts of such a side-arm had the general diameter, thickness and appearance of a loop of the patient's intestine, but in some places it ballooned out into a voluminous structure. All three of these diverticula penetrated the right side of the diaphragm and thereafter continued upward in an extrapleural location in the posterior part of the chest. The blood supply of these diverticula, while coming partly from the mesentery of the jejunum or from the duodenum, did not all arise from such sources. It was obvious that numerous arteries and veins joined them from the diaphragm and from many parts of the mediastinum. These diverticula had smooth muscle coats and were lined by mucosa resembling some portion of the alimentary tract. In the first case, the lining was similar to that of the jejunum, colon and respiratory tract, while in the other two, it resembled gastric mucosa, being found to secrete hydrochloric acid and pepsin. The symptomatology in these patients was found referable to (i) the accumulation of gas or material within the thoracic portion of the diverticulum in such a way as to produce cardiorespiratory disturbances; (ii) the

formation of hydrochloric acid and pepsin within the diverticulum, which produced ulceration in the neck of the diverticulum or nearby intestine, so that serious hæmorrhage ensued from the alimentary tract; (iii) the accumulation of very acid material within the diverticulum, which produced an intense reaction in its wall and in regional structures, so that chest pain appeared. X-ray examination of these three patients showed variable features, but in each there was a shadow projecting out from the mediastinum, which appeared to be either a solid mass or a gas-containing viscus. Under some circumstances, the symptoms from one of these diverticula are such that excision of the entire diverticulum is desirable, but in other cases, complete relief can be obtained by removing only the thoracic portion of the diverticulum. Surgical attack on such an anomaly might require multiple stage procedures, but sometimes it is possible to remove the intrathoracic and infradiaphragmatic portions of the diverticulum in one operation.

A Simplified Method for Ventricular Puncture.

T. C. ERICKSON AND H. M. SUCKLE (*Archives of Surgery*, October, 1949) describe the technique of using a hand drill to perforate the cranium for the purpose of introducing a brain needle and performing ventriculography. The advantages of this method are several. The first is its comparative safety and the saving of time for the patient and the surgical and nursing staffs. An operating room set up is not required, and it may be done in the radiology department or at the bedside in an emergency in five or ten minutes. The authors have used this method over a period of four years in over 100 patients, and no serious complications have been encountered.

Sarcomatous Change in Multiple Neurofibromatosis.

JACK HERRMANN (*Annals of Surgery*, February, 1950) reports four cases of von Recklinghausen's disease in which sarcomatous changes developed. Multiple neurofibromatosis is defined as a systemic disease of protean manifestations and undetermined ætiology which affects the nerves primarily. It is estimated to occur in about one out of 2000 persons and is reported in white, black and yellow races. Generally, there are multiple nodules along the nerve trunks and pigmentation of the skin. The nodules of neurofibromata cause symptoms depending on their size and location. Superficial or deep somatic nerves as well as sympathetic and parasympathetic may be concerned. Usually the lesions are painless, but occasionally pain from pressure occurs. The nodules are sessile, pedunculated, soft or elastic tumours, and the pigmentation takes the form of brown patches or *"café-au-lait"* spots. Mental retardation is reported to occur in some instances, and endocrine disorders are also reported. Malignant transformation is the most serious complication of the disease, but it is rather rare. The author reports the details of four cases, two of the patients being brothers whose clinical courses were carefully followed from infancy, and a third a woman who developed a sarcoma during pregnancy. Three of the patients developed sarcomata in their sciatic nerves, and one developed a sarcoma retroperitoneally. The author concludes that patients with neurofibromata should be cautioned about the hereditary possibility of transmission of the disease and associated congenital abnormalities. The diagnosis is not difficult, and biopsy of nodules or *"café-au-lait"* spots should not be carried out because of the possibility of stimulating sarcomatous transformation. The lesions should be widely extirpated only if there is a sudden swelling associated with pain. X rays, radium and more recently nitrogen mustard have been used in the treatment of this disease with little success. Radical surgery in an early sarcomatous lesion is still the treatment of choice.

Anastomosis between Coronary Vessels and Systemic Arteries.

A. M. VINEBERG (*The Journal of Thoracic Surgery*, December, 1949) describes operations which he has performed on dogs to transplant the left internal mammary artery into the heart muscle. In some cases a communication formed between the circulation through the transplanted artery and that of the left coronary vessels.

A. BLALOCK (*ibidem*) describes operations in which the carotid and subclavian arteries were anastomosed with the coronary sinus. The operative mortality was high, but a few of the animals survived. In the opinion of this author the risk of such operations is incommensurate with the possible benefit to be obtained from them.

Simple Spontaneous Pneumothorax.

P. C. CURTI AND T. POULSEN (*The Journal of Thoracic Surgery*, January, 1950) have successfully extirpated the affected part of the lung in persons suffering from simple spontaneous pneumothorax when chronicity or tension has developed. They recommend routine thoracoscopy to establish the correct diagnosis and to locate the site of the disease where the result of X-ray examination has been negative.

Valvuloplasty and Commissurotomy for Mitral Stenosis.

D. E. HARKEN *et alii* (*The Journal of Thoracic Surgery*, January, 1950) describe three valvuloplastic operations performed for the relief of mitral stenosis and discuss the operation. One operation was very successful, one was abandoned and one was followed by death of the patient.

C. P. BAILEY *et alii* (*ibidem*) describes 15 operations of commissurotomy performed for the relief of mitral stenosis. Of 14 patients so treated, 10 are living and have shown great improvement.

Bacitracin and Progressive Bacterial Synergistic Gangrene.

FRANK L. MELENEY, PHILIP SHAMBAUGH AND ROBERT S. MILLEN (*Annals of Surgery*, February, 1950) present the details of five more cases of progressive bacterial synergistic gangrene, in all of which the patients responded promptly to systemic bacitracin therapy after they had failed to respond to other methods of treatment. They state that the ætiology of this condition was clearly demonstrated in 1926 in laboratory studies by Meleney and was reported. The organisms responsible were found to be a micro-aerophilic non-hæmolytic streptococcus and a hæmolytic *Staphylococcus aureus*. In animals it was shown that these two organisms together were capable of producing a gangrenous lesion when combined, while neither alone in pure culture was able to produce any significant infection. A résumé of previous cases reported and their studies is given by the authors, who state that until 1945 nothing was found capable of bringing this infection under control except wide surgical excision. The chief symptom of this condition is the extraordinary pain and tenderness of the lesion, which may be post-operative or occur about a colostomy or ileostomy stoma or occasionally in a trivial superficial accidental wound or in a skin lesion of long standing due to some other cause. The gross appearance is characteristic. An outer zone of erythema varying from one to ten centimetres in width has inside a raised purple zone, the outer margin of which blends with the erythematous zone. The inner margin is sharply defined, crenated in outline, dark purple in colour and firmly adherent to a zone of gangrenous skin, which has a suede-leather yellowish or brownish-green mottled coloration. The centre of the lesion is a granulating ulcer. In two typical cases treated in 1945 by Meleney, Friedman and Harvey with penicillin, response was so prompt that excision of the lesion was obviated. However, in a third case of this kind reported by the same authors, failure to respond to penicillin occurred because one of the secondary contaminants of the *Pseudomonas pyocyanea* group was present; this actively produced a penicillinase, thus nullifying the benevolent action of penicillin. Two of the cases reported by the authors were instances of post-operative infection in the usual sense. In the third case, the lesion developed around an ileostomy eight weeks after the operation. The fourth patient produced the lesion in a simple abrasion, while in the final case the disease followed contamination of an area of *mycosis fungoides*. In four of these cases failure to respond to penicillin occurred; penicillin was not used in the fifth case, as it had been previously demonstrated that the patient was allergic to penicillin. In all cases, surgical excision was obviated, and the authors conclude that systemic administration of bacitracin is today the treatment of choice for this clinical entity.

Blood Loss during Thoracoplasty.

F. F. ALLBRITTEN, JUNIOR, *et alii* (*The Journal of Thoracic Surgery*, January, 1950) have estimated the blood loss during the stages of thoracoplasty and also the diminution in blood volume occurring between the stages. They show that there is a significant loss of blood between stages and conclude that blood replacement is required not only at the time of operation, but between the stages to maintain an optimum blood level.

Large Emphysematous Bullæ and Blebs.

J. R. HEAD AND E. E. AVERY (*The Journal of Thoracic Surgery*, December, 1949) have treated eight patients with large emphysematous bullæ or blebs by continuous suction-drainage of these after the fashion of Monaldi's operation for tuberculous cavities. Generally the results were satisfactory and there was considerable increase of the vital capacity.

Special Article.

EXPIRING THOUGHTS OF AN ENGLISH EXAMINER.[1]

By LIONEL ELVIN, M.A.[2]

BY the time that Doctor Johnson reached the letter L in his great dictionary he wondered whether the effort was really worth while, and he wearily defined "lexicographer" as "a maker of dictionaries, a harmless drudge". My period of examining in English for the Chartered Institute of Secretaries has not been without its pleasures, but I reach the end of it in something of a Johnsonian mood and feel like defining an examiner as "a marker of scripts, who cannot help how badly they are written".

Lest this seem ungenerous, I must record that in these years I have read some essays that were entertaining, some business letters that were written in business-like English, and occasional whole papers that showed that the authors both understood what good English was and were capable of it themselves. But in this time as a whole there has been no perceptible change, and the minor campaign I have waged through the papers I have set cannot be adjudged a success. Here and there a skirmish has been won: "inst." and "prox." and "ult." have been wounded, perhaps indeed mortally now; rather fewer dangling participles dangle from the gallows following the examiner's half-yearly assize; and some future secretaries have discovered that "uninterested" and "disinterested" do not mean quite the same thing. Yet it must be admitted that these were senile foes, long past their rampaging days, and often wounded before by critics with more penetrating weapons than mine.

At the end of my time I find still a common inability to cope with the requirements of ordinary effective expression. Some candidates, it is true, write passably so long as they do not think about what they are doing, but are lost when they are asked to analyse the language they or others use. Some have memorised the elementary terms of grammar in a touching desire to impress and feel it should count for virtue to speak of a split infinitive even where none is split. Some have both knowledge of elementary grammar and the ability to write a plain letter in a plain way, but revert to the most dreary emotional clichés when they have to write an essay, for which (as they suppose) a synthetic elegance known as "style" must be added.

All this leads me to think that there are fundamental misconceptions about the nature of the English language and how to use it, errors about what one might call the very simplicities of the subject. As a result candidates prepare themselves for the examination wrongly and comport themselves foolishly in the examination hall itself. So in this article I should like to have a desperate last fling and to say what these simplicities of the subject are. I am convinced that many of the difficulties people feel about taking examinations in English are of their own making, and perhaps I may at least encourage some who have found this subject more difficult than it need be. Of course, the writing of good English is an art, and one not easily to be acquired; but there is much less pedantry in it, and very much more fun, than most people ever suppose.

First let us clear some nonsense out of the way. There is no absolute "good English", no correct English that is always and everywhere the best. The reason for this is that language is a social medium and social situations are of many different kinds. As speakers and writers we have different audiences, different intentions and different purposes at different times, and to communicate effectively we therefore have to adopt varying means. A poker may be a very efficient instrument for increasing the heat thrown out by a fire—if the fire is a coal-fire. But stick a poker into a gas-fire and you will get less heat, not more. So let us be done with this grammarian's Platonism that supposes there to be some ideal English in Heaven of which all our sentences should be copies. Let us abandon the heresy that every word has one essential meaning. Let us no longer assume that every living sentence can be cut up into standard units that will fit into a grammarian's pigeon-hole. All this is nonsense and denies the living nature of speech. Language is spoken first, and written next, and it is analysed by grammarians only afterwards. Unfortunately, too, many of our own grammarians have not even analysed the English language in terms of English. Instead they have tried to label the parts of the English sentences we write and speak with names derived from the grammar of Latin, a dead language with quite a different genius.

Now grammar is an important study and a good grammarian a useful man, but living language and pedantry have always been foes. That was Shakespeare's view, as any one who reads "Love's Labour's Lost" may see. Not only may pedantically correct English be ineffective and therefore bad English, but in certain circumstances supposedly bad English may, in fact, be good. When the archbishop's taxi had a collision with a 'bus and the taxi-driver attacked the 'bus-driver in Billingsgate of rare choice, the archbishop asked his driver whether the use of such language was not a very bad habit. "'abit?" replied the driver; "it ain't an 'abit; it's an art". And he was right. But note that he did say it was an art; and that is very different from being the lazy, standardised speech that slang usually is. It is never true that any language will do, whether in writing poetry or composing curses. The knowledge that comes from study and the skill that comes from practice are alike desirable in both.

Two kinds of study are necessary for gaining a reasonable command of English, and they may be likened roughly to the study of anatomy and the practice of sketching among young painters. A highly original artist, like Blake, may not greatly need the study of anatomy. But for a less visionary painter or an average painter this will give a sense of the articulation of joints and of normal shapes so that he may go more freely about his main business, which is presumably the expression of the personality of his subject. Intelligent sketching is more important still. It may be sketching from life, or from memory, or from paintings by great masters. Similarly with language. The study of grammar helps one to understand the normal structure of a language so that one may go about using it with greater ease and skill. More important is being sensitive all the time to the language one hears and reads and uses, so that one may experiment confidently and feel for the right words that really do express one's meaning and one's personality. So learning to write English well involves two kinds of preparatory study: one is special and analytical and more like a science, the other is general and is like observing and practising an art.

The special preparation, in terms of necessary hours of study, ought not to be very exacting in English, though some people (confused perhaps by the Latinised grammarians) do contrive to make heavy weather of it. It really is true that in English there is less grammar to be learned than in any other European language. The spelling and pronunciation of English are difficult, especially for a foreigner, and our amazingly rich vocabulary, drawing so extensively on both Romance and Teutonic sources, is very large, and in that respect difficult; but the grammar is easy. The English student of English knows most of this little already, without ever having had formally to learn it. What is there in it that he needs to set out to learn?

There are some rules, of course; and these might be said to be of three kinds. First there are those that show the survival of an earlier and more inflected stage of the language. We have a few words, for instance, that do not form their plurals with an "s", either very old words (ox, oxen; child, children) or importations from other languages (stratum, strata). Again, our pronouns show survivals of an earlier inflected stage of the language in their different endings for different cases (I, me; we, us). Still again, the varying ways with which we form the different tenses of our verbs (I love, I loved; but, I eat, I ate) show that our language has grown and not been made all at one moment, like Esperanto. All of this learning (except for the plurals of some foreign words) is done in the primary schools, if it has not been done earlier still in the home. Perhaps it may be left to the very mature to discover that the plural of "spouse" is not "spice", but quite young children seem able to cope with the plural of "mouse". Children a little older should know the difference (though some would-be secretaries do not) between the verb "to lay" and the verb "to lie", and by the time they reach the lower forms of secondary schools, boys and girls should be able to say what they mean when the describe the former as a transitive and the latter as an intransitive verb. They should certainly have been familiar for some time with the names of the parts of speech and should not confuse them when there is no real doubt (adjectives with adverbs, for instance) as many secretarial candidates do. A more sophisticated student would do more, and show that he understood the limitations of formal grammar. If, for instance, he were asked to comment on the phrase "Go quick", he would say

[1] Reprinted by permission from *The Secretary*, Volume XLVII, June, 1950.

[2] He was formerly Principal of Ruskin College, Oxford, and has been appointed Director of the Department of Education in UNESCO.

that normally this would read "Go quickly", since that is the proper adverbial form of the second word, but he would add that there is a tendency sometimes for the same form (as with the word "fast") to be used both as adjective and adverb. He might add that if the formal distinction of ending disappeared, English would hardly suffer, but he certainly should say that with English in its present state "quick" is no less an adverb (since it modifies the verb "go" and not a noun), although it has an adjectival form. However, it is safe to say that no sophistication such as this is ever called for from candidates in the Intermediate Examination in English. The few things they need to know of formal grammar, and that they have not picked up at home or at school, could be acquired in a very few hours with any standard text-book and retained with a very little analytical practice.

A second kind of rule is merely a rule of logic applied to language. Some grammatical rules, of course, have nothing to do with logic, and they may even fly in the face of it. The association of tense with time, for instance, is far from logical; and in some languages the connexions between gender and sex are absurd (in German "the woman" is "das Weib", neuter). Word-order is also in large part a matter of conventions which vary from one language to another (compare the French "il y en a" with the English "there are some of them"); but the general injunction that we should keep closest together those words and phrases that are closest in sense is based on an awareness of logic. Another logical rule is the one that a participle should be made to relate grammatically to the noun or pronoun to which it relates in sense. Yet another is the rule that one may use either a singular or a plural verb with a collective noun (according to whether one is thinking of the group as a whole or of numerous members that make up a group), but not both in the same passage.

The guides that may be given to the student in such matters are these: first, see that what you write expresses what you mean, as nearly as possible in the logical order of your thought; secondly, observe standard usage as a normal thing; and lastly, when you break with standard usage (as when you decide that a preposition may be a good word to end a sentence with) know what you are doing and do it because you like your sentence better that way.

Standard usage! That phrase opens realms of discussion that are far too extensive and ill-defined for proper consideration in a short article like this. But I must say a little about it because it concerns what might loosely be called the third kind of rule in grammar. The great thing to remember is that there are standards, but that they are never absolute. There are some rules of this kind that are firm rules at the moment, though they may not be in 50 years' time. And there are some usages that are general and probably wise, but about which opinions now may reasonably differ.

Two of the problems that baffle people most are the use of "that" and "which" and of "would" and "should". As to the first, there is much to be said for the use of "that" to refer to some of a class, and "which" to refer to the whole of a class described by the preceding noun. For example: "The books that I had read, I returned", implies that I had read only some of the books and did not return the others; whereas "The books, which I had read, I returned", implies that I had read all of the books and returned all of them.

The use of "would" and "should" is complicated by the fact that both are used in the conditional mood of verbs (or, as some would say, in the subjunctive mood used conditionally—the doubt as to whether we have a real subjunctive in English illustrates the impossibility of fastening a strict grammatical framework over a living language). But "should" is used with the first person, "would" with the second and third. Thus we say, "If I were able to go, I should do so"; but "If he were able to go, he would do so". When the idea of wishing is present in a sentence that does not have a conditional clause one uses "would" in all three persons; for example, "I would" (or "he would") "gladly stay in this country". But "should" is to be used when the idea of obligation is implied; for example, "I should stay in this country, because my home is here". But these considerations are not absolute. Fowler's *Modern English Usage* (an indispensable book, marked by unpedantic good sense) does warn one, I know, against departures from these rules for the sake of elegant variation. But personally, I prefer an occasional "which" if the sentence would otherwise have too many repetitive "thats", since the logical line between the two words is now very thin. And if it is right to say, "I should be glad if that were so", although an idea of wishing is present, "I would be glad if that were so", cannot be very wrong, although the "if" clause shows the sentence to be a conditional one. A slight offence against strict logic has to be committed whichever one uses; so although my own preference is for "should" (like Fowler's) I do not feel that "would" is very shocking. Grammatical admonition in such a matter can be only tentative because usage is very uncertain.

The point to remember is that usage is changing all the time, and usage, not the grammarian, is the final arbiter. Years ago we were taught in school to say "different from" and not "different to". But "different to" has become so common now that it seems pedantic to object. After all, there is no logical rule of any great strength that may be invoked on either side. The most that one can say is that "from" implies separation and therefore distinction, "to" implies coming nearer, not getting farther away. But logic of such tenuousness really cannot be applied in face of dominant usage. What still is unacceptable, of course, is "different than", at least on this side of the Atlantic. But it is becoming so common in America that no one can say what our own usage will be in 20 years' time. Again, what about the very fashionable pastime of looking at things "from a certain angle"? I decline to do this: it offends my sense of geometry. I can look at things from a point (we say "from that point of view"), but not from an angle. But I am forced to admit that it is beginning to be pedantic to insist on this because so many people do look at things from an angle now. In another ten years it will be as futile to protest about this as to insist (as the dictionaries do) on a hard "g" in "margarine". Every housewife who has run out of butter says she must make do with "marge", and it is the housewife, not the grammarian, who settles the matter.

In other words, we need a fine tact in deciding when a usage hitherto frowned upon has really forced its way in. Then we had better admit it with the best grace we can. In the stage of uncertainty it is worth disputing hard, for only so may English be kept basically true to its genius and at the same time reasonably open to vitalising change. Years ago there was fierce controversy over the verb "to try out" (people said, why not simply "to try"?). It has now made its way in, I think; and on the whole rightly so. But Sir Alan Herbert would have no truck with "de-ratisation" and one hopes he has killed it deader than the deadest rat. All one can do, as a student, is to listen, to read, and to use one's good sense. And, of course, it is always true that freer forms are permissible in speech than in writing, and in personal letters than in formal statements.

I hope I have said enough now to encourage future candidates who felt unhappy about their prospects in the examination in English, at least on the side of formal grammar. I have not taken for discussion merely the easy peculiarities of our language, but at least one or two of the more baffling problems. Remember that the grammarian himself cannot be precise beyond a point, or he will falsify the reality of the language. All the rest of us need to do is to familiarise ourselves with a few forms and names and rules and usages, and use our good sense. The little work that has to be done must be done seriously, even as seriously as if it were in accountancy or economics; but it will take nothing like the same amount of time. This is not patronising talk from an expert, for indeed, I am no expert and would never think of setting myself up as a grammarian. I do not doubt that a purist could find "errors" in this article I am writing, and what I have said about "that" and "which" and "would" and "should" may well hold flaws that a grammarian would detect. I should not greatly worry, for I think the working sense of it is right. I should be worried, though, if in this article I had committed a serious solecism (readers who do not know the meaning of "solecism" may now look it up—it has nothing to do with either solitude or sun-worship, although I was assured it had in the last examination). I should be much more worried if I had blurred my meaning by some doubtful use of a word or by some very clumsy construction.

What of the more general preparation that is desirable for any one who is to take an examination in English? No easy prescription will serve here. All one can say is: hear good English, read good English, and try to use good English. In the hundreds and hundreds of scripts that I have read in recent years one thing stands out clearly: that is the solid advantage held by candidates who read good books. When, on the other hand, candidate after candidate tells the examiner that "mystic" means "mysterious" and usually refers to the "mystic East", one wonders what novels he does read (perhaps I should say, what films he sees).

Dull dogs write dull prose, though even so there is no reason why it should not be competent for ordinary purposes. But few people are really dull, all through. So many people, though, with really lively personalities outside the examination room or the office, go all dead once they take a pen into their hands. This is a great pity. It means that they

haven't discovered that literature is part of life, that they have never nourished their sense of delight on the great writing that we have in English. Once they have, once they have got the taste, everything they themselves write will show the effect of this. This taste, this study, is not in the least the preserve of professional teachers of English. It was never more needed than to-day by other people who use English for their special purposes. The late George Orwell once took a passage from the Bible, simple, clear and moving; and he re-wrote it in the muddied jargon of the current text-book in education or psychology. Comment was hardly necessary. To-day, politicians, civil servants, economists—and business-men—weary us with an English that has lost all sense of metaphor and magic. They seem determined that English shall rank with the dead languages even though the living speak it.

"But", it will be said, "metaphor and magic are the last things our employers want in a company office." To which I am tempted to say (no doubt very irresponsibly), "then leave it". That wasn't the view of things taken by the merchant adventurers of earlier days who built up this country's commercial fortunes (read Hakluyt's *Voyages*). I worked in a commercial office myself once, and I know the feeling of frustration: I had better not dwell on it. Let me come back to Orwell. His point was not that the English he condemned was free of metaphor (good English prose may be written with very little metaphor—the prose of Dean Swift shows it). His point was that the English of so many writers now is cluttered with metaphors that have gone dead or that our current writers are doing their best to kill. A mixed metaphor comes when some one uses metaphors that are still alive for the rest of us, but that are dead for him. The case of the man who said that the Nazi jack-book had now sung its swan-song was not that he was *not* using metaphors, but that he *was* and did not know it.

Merely reading a good newspaper or periodical regularly, apart from reading good books, will help to give a sense of effective clean-cut English. I have no financial interest in any newspaper, so my advice is quite disinterested (not, be it said firmly, uninterested). Let me recommend one newspaper, *The Manchester Guardian*, and one periodical, *The Economist*, which seem to me really well-written, whether one agrees with their views or not. There are other papers, of course, that are well-written; but unfortunately many that are not.

My own interests are in English literature and in literary criticism. I am neither journalist, economist nor businessman. But I recognise that the work of our writers and critics is fore-doomed unless there is a *general* excellence in the use of our language. For in these matters there is a Gresham's Law that operates with devastating effect. That is why I have been so interested in acting for a while as your examiner in English. This subject is of importance, of major importance, to all of us. We have a great heritage in the English language, fashioned for us by our forebears and made into the finest instrument for expression that the world's languages can show. And we are letting it rust, unused; or worse still are misusing it and twisting it into horrid shapes that prevent it from doing its proper work. Only if we Englishmen care about it, not as experts, but as its every-day users and custodians, can we yet prove the critic wrong who said that if the English language has a future it now rests with the Irish and the Americans.

British Medical Association News.

ANNUAL MEETING.

THE annual meeting of the South Australian Branch of the British Medical Association was held in the Verco Theatre of the Institute of Medical and Veterinary Science, Adelaide, on June 28, 1950, DR. C. O. F. RIEGER, the President, in the chair.

Annual Report of the Council.

The annual report of the Council was received and adopted on the motion of Dr. C. T. Piper, seconded by Dr. F. R. Hone. The report is as follows.

At the annual general meeting of the Branch, held on June 29, 1949, the following officers and members of Council were elected:

President: Dr. C. O. F. Rieger.
Vice-President: Dr. G. H. Burnell.
Honorary Treasurer: Dr. F. L. Wall.
Honorary Medical Secretary: Dr. Robert F. West.
Ordinary Members of Council: Dr. M. E. Chinner, Dr. R. H. Hamilton, Dr. R. C. Heddle and Dr. F. Boyd Turner.

At a meeting of the Council, held on July 7, 1949, the following subcommittees were appointed:

Scientific: Dr. M. E. Chinner, Dr. A. Britten Jones and Dr. R. L. Thorold Grant.
Contract Practice Subcommittee: Dr. R. John Verco, Dr. L. R. Mallen, Dr. F. B. Turner and Dr. R. H. Hamilton.
Ethics: Dr. B. S. Hanson and Dr. M. E. Chinner.
Parliamentary Bills: Dr. R. John Verco and Dr. L. R. Mallen.
Library: Dr. R. L. Thorold Grant, Dr. B. S. Hanson and Dr. J. M. Dwyer.
Salaries: Dr. A. Britten Jones and Dr. R. H. Hamilton.
Tuberculosis: Dr. H. M. Jay, Dr. D. R. W. Cowan, Dr. J. L. Hayward, Dr. K. S. Hetzel and Dr. H. D. Sutherland.
Lodge Negotiating Committee: Dr. C. O. F. Rieger, Dr. A. D. Lamphee, Dr. F. L. Wall, Dr. L. R. Mallen and Dr. R. John Verco.

The president, the immediate past president, the vice-president or vice-presidents, and the chairman of committees (if any), the honorary treasurer and the honorary medical secretary are ex-officio members of all committees, other than the Ethics Committee and standing committees. The president and the honorary medical secretary are ex-officio members of the Ethics Committee and of all standing committees.

At a meeting of the Council, held on December 1, 1949, Dr. R. C. Angove was appointed by the Council to act as honorary medical secretary in place of Dr. Robert F. West until the date of the next annual meeting (*vide* Rule 44), thus completing the term of Dr. West, who resigned the office owing to his absence abroad.

Monthly Scientific Meetings.

Nine meetings were held during the year up to June 22, 1950. The following programme was carried out:

1949: July 28, Dr. J. Rupert Magarey, "Post-Graduate Experiences"; August 25, Mr. I. B. Jose, "Experiences Abroad" *et cetera*; September 29, Dr. A. S. deB. Cocks, "Recent Advances in Oto-Laryngology of General Interest"; October 27, Dr. W. C. T. Upton, "Some Every-Day Problems in Dermatological Practice"; December 15, clinical evening at Adelaide Children's Hospital.

1950: February 23, Mr. L. C. E. Lindon, "Neurosurgical Topics of General Interest"; March 30, clinical meeting, Royal Adelaide Hospital; April 27, Listerian Oration delivered by Dr. C. G. McDonald, of Sydney, entitled "The Physician in His Workshop"; June 22, clinical meeting, Repatriation Hospital.

In addition to the above, members were invited by the South Australian Committee of the Royal Australasian College of Surgeons to lectures given by Mr. H. H. Stewart, of Perth, on August 19, 1949, and to the lecture given by Dr. O. T. Claggett, of the Mayo Clinic, on May 23, 1950. The Repatriation Commission also invited members to attend a film on "Poliomyelitis Diagnosis and Management" on November 17, 1949, and the Australian Association of Psychiatrists to a clinical meeting held on March 11, 1950.

Membership.

The membership of the Branch is 579, an increase of seven over the previous year. The number of new members elected was sixteen and the balance results from deaths and transfers.

It is with sincere regret that the Council records the deaths of Dr. Marie Brown, Dr. W. R. Clark, Dr. E. B. Thomas, Dr. F. M. Tippelt, Dr. Creagh Smeaton, Dr. H. H. Wiggs (an honorary life member of the association), Dr. P. T. S. Cherry and Dr. R. John Verco.

Dr. Cherry was first elected to the Council in 1924 and served for approximately eighteen years. He was president in 1938-1939 and served continuously as treasurer from July, 1940, to June, 1949. At the time of his death Dr. Cherry was also one of the two representatives of the association on the directorate of the British Medical Hall Company, Limited.

Dr. R. John Verco was first elected to the Council in 1928, and he was still an active member at the commencement of his last illness. During this period Dr. Verco was three times president of the Branch from 1940 to 1943. He

was elected as Federal Council representative in 1943 and served continuously in that capacity until forced by illness to miss the meeting in Brisbane in May. Dr. Verco served the members of the South Australian Branch with zeal and distinction, and the Federal Council has acknowledged the service that he rendered to the whole profession in Australia.

Representation on Boards et cetera.

Medical Board of South Australia: Dr. E. Britten Jones.

Dental Board of South Australia: Dr. W. John Close.

Australian Aerial Medical Services Council: Dr. J. M. Dwyer.

Federal Council of the British Medical Association in Australia: Dr. L. R. Mallen and Dr. R. John Verco.

St. John Ambulance Association: Dr. H. H. Hurst.

Representative of "The Medical Journal of Australia": Dr. E. F. Gartrell.

British Medical Hall Company Directorate: Dr. C. O. F. Rieger and Dr. F. L. Wall.

Mothers and Babies' Health Association: Dr. R. John Verco.

Bankers' Health Society: Dr. J. Escourt Hughes.

Panel of Medical Referees under the Provisions of Section 97 (a), Subsection 7, of the Workmen's Compensation Act: Sir Trent de Crespigny, Dr. K. S. Hetzel, Dr. F. Ray Hone, Dr. E. Britten Jones, Dr. Guy Lendon and Dr. E. McLaughlin

Certifying Medical Practitioner under Part IX of the Workmen's Compensation Act: Dr. C. H. Schafer.

Chiropody Advisory Board: Dr. E. F. West.

Advisory Council on Health and Medical Services: Dr. L. R. Mallen.

Nurses Board of South Australia: Dr. A. B. Russell.

University of Adelaide Post-Graduate Committee in Medicine: Dr. R. L. Mallen, Dr. J. E. Hughes and the President *ex officio*.

Anti-Cancer Campaign Committee: Dr. C. O. F. Rieger.

Representative on Central Council of the Association: Dr. Charles H. Kellaway.

Representative at Annual Meeting of the Association, Harrogate, 1949, and Australian Delegate to Annual General Assembly of the World Medical Association: Dr. L. L. Davey.

Lord Mayor's Cancer Appeal Fund for South Australia: Dr. A. Britten Jones.

Sections.

Section of Anæsthetics.—At the annual general meeting, held on October 20, 1948, the following officers were elected: *Chairwoman*, Dr. Mary Burnell; *Vice-Chairman*, Dr. J. R. Cornish; *A.S.A. Representative*, Dr. Gilbert Brown; *Secretary-Treasurer*, Dr. J. E. Barker.

Since then the following meetings have been held:

1948: December 8, discussion of difficult cases.

1949: March 8, paper by Dr. A. W. Wall, "Intravenous Anæsthesia"; April 26, discussion of fees for anæsthetics; June 8, paper by Dr. Ivan Magarey—description of points of interest and practical importance derived from his own experiences; paper read by Dr. J. R. Cornish (Dr. John Snow, 1813-1858); August 30, paper read by Dr. J. H. Stace, "Experiences with Trilene"; October 18, paper read by Dr. Gilbert Brown, "David Waldie and the Early Use of Chloroform".

The average attendance at the above meetings was nine.

During the year food parcels were sent to anæsthetists in Great Britain. In March an attempt was made to improve the status of anæsthetists at the Royal Adelaide Hospital. So far it has proved fruitless, but the matter is still under consideration.

Section of Clinical Medicine.—The annual report of the Section for the year states:

1. Membership: There are 53 financial members of the Section. It is felt that the meetings of the Section serve as an integral part of post-graduate medical education, and are open to all members of the British Medical Association (South Australian Branch) on payment of the necessary subscription.

Appeals have been made to members of the British Medical Association to join the Section with only a mediocre response. With the total number of members of the British Medical Association (South Australian Branch) in the metropolitan area alone amounting to over 350, there seems no reason why the membership of the Section should not stand at 100.

2. Committee: At the annual general meeting held on May 17, 1949, the following officers were elected: *Chairman*, Dr. M. E. Chinner; *Honorary Secretary and Treasurer*, Dr. C. B. Sangster; *Committeemen* (three others), Dr. I. S. Magarey, Dr. J. M. Bonnin, Dr. H. R. Gilmore.

3. Clinical Meetings: Meetings of the Section were held in the Physiotherapy Department, Royal Adelaide Hospital, in May and September, 1949, and February, 1950.

4. Section of Clinical Medicine Prize: The prize for 1949 was won by Mr. Michael G. Taylor.

Eye, Ear, Nose and Throat Section: The annual report of the Section for the year ending March 14, 1950, states: During the year five meetings of the Section were held, the average attendance being ten members. There are nineteen members and meetings were held as follows:

1949: March 1, annual meeting; May 17, formation of an Australian Oto-Rhino-Laryngological Society; July 19, paper by Dr. Mark Bonnin entitled "Modern Views on Hypertension"; August 30, discussion of a standard schedule of fees in ear, nose and throat work submitted by the Queensland Section; September 30, clinical evening (welcome to Mr. Doggart, of London).

The office-bearers are: *Chairman*, Dr. S. Pearlman; *Vice-Chairman*, Dr. G. H. B. Black; *Secretary and Treasurer*, Dr. E. Couper Black; *Committeeman*, Dr. J. A. Rolland.

Northern Medical Association.

Four meetings were held in the year. The first was at Peterborough on July 17, 1949, when nine members attended. Dr. J. Russell Barbour gave a talk on "The Surgical Anatomy of Abdominal Wall" and "Brachial Plexus Block", the latter illustrated by a model. The second meeting took place at Kapunda on October 15, 1949, when ten members attended. The meeting took the form of a film afternoon. Films, colour and sound, were shown by courtesy of Wyeth Incorporated: (i) "Intragastric Drip Therapy for Peptic Ulcer"; (ii) "The Use of Digitalis in Heart Failure". The third meeting was held at Clare on February 2, 1950, and

ATTENDANCES OF COUNCIL MEMBERS AT COUNCIL AND COMMITTEE MEETINGS.

	Council.	Committees.								
		Scientific Sub-Committee.	Contract Practice.	Publicity.	Ethics.	Tuberculosis.	Salaries.	Parliamentary Bills.	Lodge Negotiating.	Library.
ANGOVE, R. C.	6	—	1	—	—	—	2	1	—	—
BURNELL, G. H.	11	—	1	2	2	2	3	3	1	—
CHINNER, M. E.	12	1	—	—	2	—	—	—	—	2
GRANT, R. L. T.	14	1	—	—	—	—	—	—	—	2
HAMILTON, R. H.	13	—	3	—	—	—	3	—	—	—
HANSON, B. S.	12	—	—	—	2	—	—	—	—	2
HEDDLE, R. C.	13	—	—	—	—	—	—	—	—	—
JONES, A. BRITTEN	11	1	—	—	—	—	2	—	—	—
LAMPHEE, A. D.	9	—	—	2	—	2	1	2	—	—
MALLEN, L. R.	15	—	1	—	—	—	1	2	2	—
PAVY, H. K.	6	—	—	—	—	—	—	—	—	—
RIEGER, C. O. F.	15	1	3	5	2	2	3	3	2	—
TURNER, F. B.	14	—	2	2	—	—	—	—	—	—
VERCO, R. J.	11	—	1	4	—	—	—	3	—	—
WALL, F. L.	14	1	3	4	1	1	2	3	2	—
WEST, R. F.	5	1	—	1	—	1	—	1	—	—
Meetings held up to May 11, 1950	15	1	3	5	2	2	3	3	2	2

was held in conjunction with the Post-Graduate Committee in Medicine of the University of Adelaide. The lecturers were: Dr. F. H. Beare, "Management of Neurosis in General Practice"; Dr. H. A. McCoy, "X-Ray Interpretations of Common Conditions"; Dr. I. B. Jose, "Surgery of the Acute Abdomen"; Dr. H. E. Pellew, "Common Gynæcological Conditions". The fourth meeting was held at Gladstone on May 6, 1950. The lecturer was Dr. Neville Wilson on "Injuries to the Elbow". Fourteen members attended.

This was followed by the annual general meeting of the association. The following officers were elected for the ensuing year, 1950-1951: *President*, Dr. L. R. Mallen; *Vice-President*, Dr. G. Wien Smith; *Honorary Secretary*, Dr. G. Wien Smith; *Members of Committee*, Dr. R. C. Heddle, Dr. K. J. Basedow; *Honorary Auditor*, Dr. K. J. Basedow.

There are thirty financial members of the association. The association regrets the death of the Vice-President, Dr. E. B. Thomas, of Eudunda, a foundation member, and one who attended every meeting; also of Dr. F. M. Tippelt, of Quorn, who, in spite of the distance he had to travel, only missed one meeting.

South-Eastern Medical Association.

The inaugural meeting was held at Mount Gambier on November 6, 1949, when the following office-bearers were elected: *President*, Dr. Charles E. King; *Vice-President*, Dr. H. Keith Pavy; *Secretary and Treasurer*, Dr. H. B. Holmes.

Three meetings were held during the year:

November 26, 1949: Mount Gambier. Afternoon clinical meeting, followed by dinner. An address was given by Dr. C. O. F. Rieger entitled "Medical History of the South-East".

January 14, 1950: Mount Gambier. Clinical meeting followed by dinner. An address was given by Dr. E. Britten Jones on the subject of "Hypertension".

April 22, 1950: Naracoorte. Clinical meeting and dinner. An address was given by Dr. L. C. E. Lindon entitled "Surgery of Hypertension".

The next meeting is to be held at Penola on July 22, 1950. There are eighteen financial members of the association.

Upper Murray Medical Association.

The inaugural meeting was held at Berri on July 14, 1949, when the following office-bearers were elected: *President*, Dr. M. V. Samuel; *Vice-President*, Dr. R. J. Sargent; *Honorary Secretary*, Dr. D. T. M. Hayes; *Committee*: all members; *Delegates to British Medical Association*, Dr. M. V. Samuel and Dr. D. T. M. Hayes.

Four clinical meetings were held during the year at two-monthly intervals.

October 11, 1949: Barmera. Report of three cases of hydatiform mole by Dr. T. Kohler.

December 10 and 11, 1949: This took the form of a post-graduate week-end course and was held at Barmera. Lecturers who attended were: Mr. A. Hobbs, "The Acute Abdomen"; Dr. R. Glynn, "Common Diseases of the Ear, Nose and Throat"; Dr. R. Verco, "Practical Applications of Endocrinology and Gynæcology"; Dr. F. H. Beare, "Neurological Problems of General Practitioners".

January 3, 1950: Held at Loxton, when film on poliomyelitis was shown.

March 14, 1950: Held at Waikerie. Papers presented by: Dr. G. Hunter, "Two Cases of Typhoid Fever with Unusual Symptoms"; Dr. B. Thomas, "Leuchæmia with Report of a Case"; Dr. W. Sleeman, "Sulphonamide Anuria with Report of Two Cases".

May 9, 1950: Held at Renmark. This meeting took the form of a picture evening, when films kindly lent by John Wyeth and Brother were shown. These were: (i) "Pre-eclampsia and Eclampsia", (ii) "Post-Partum Hæmorrhage", (iii) "Suspension of Uterus Operation".

There are eleven financial members of the association and the average attendance at the meetings was seven.

Retirement of Sir Henry Newland.

The Council feels that members will be gratified to know that the Federal Council has decided to commemorate the services of Sir Henry Newland to the medical profession by means of an oration to be known as the "Henry Simpson Newland Oration" to be delivered at all future sessions of the Australasian Medical Congress, and has also decided to establish a fund for a prize in surgery, on similar lines to the Jacksonian Prize. On behalf of members, the Council tenders its congratulations to Sir Henry upon the honour conferred upon him.

Revision of Rules and By-Laws.

During the period under review the Council took the necessary steps to revise the rules and by-laws of the Branch. A special committee was formed for this purpose and several meetings were held during the year. The approval of the Parent Association was obtained to the proposed alterations in the rules, which, together with the suggested alterations to the by-laws, were approved at a special general meeting of members held on May 15, 1950. It is felt that the new set of rules and by-laws will, by clarification in greater detail, facilitate the management of the affairs of the Branch and will also be of benefit to members generally.

Workers' Compensation Act: Schedule of Medical Fees.

As a result of conferences held with the subcommittee of the Fire and Accident Underwriters' Association, a new schedule of fees for treatment under the *Workers' Compensation Act* of South Australia came into force on November 1, 1949.

The new schedule of fees represents an increase of approximately 16% on that previously in existence, but does not meet all the claims made by the Council. Further consideration is being given to improving and standardizing existing agreements in all States, in addition to which the Council has made representations to the Honourable the Premier to have the total amount payable for treatment under the Act increased to £75.

Repatriation Medical Officers' Association.

During the year evidence was taken from several members of the Branch in support of the claim by the Repatriation Medical Officers' Association for an increase in salaries of its members. The Council granted the sum of £40 towards the cost of obtaining the necessary evidence and presenting it to the Public Service Arbitrator.

Formation of Local Associations and Groups.

Throughout the year under review two new local associations of members have been formed. The inaugural meeting of the Upper Murray Medical Association was held on July 14, 1949, and the inaugural meeting of the South-Eastern Medical Association was held on November 6, 1949. In addition to the above, the Eastern Suburban General Practitioner Group was formed at a meeting held on June 17, 1949. It is felt that the formation of such associations and groups serves a very useful purpose in bringing members together for discussion of matters of mutual interest, and the Council congratulates those members responsible for their formation.

Federal Independence Fund.

The total amount subscribed to the Federal Independence Fund was £5500, including the sum of £104 8s. received from members of the general public. Although the amount raised compares more than favourably with that subscribed in the other States, only 440 members out of a total membership of 579 supported the appeal, the average amount of contribution being approximately £12 5s. It will be noted with regret that 139 members failed to support the fund.

Advisory Council on Health and Medical Services.

The State Government has recently set up an Advisory Council on Health and Medical Services and the Minister of Health may refer to it for investigation and report: (*a*) any question relating to health, hospitals, medical services, the training and employment of any classes of persons whose work relates to the promotion of health or the treatment of disease or abnormality of the human body; (*b*) any proposals for new legislation relating to any of the above matters *et cetera*.

The Branch is represented on the Council by Dr. L. R. Mallen, and notwithstanding that the Act states that the Council may only consider matters referred by the Minister, in actual practice this is not so, as the Council itself can initiate any moves coming within the above category.

Members who have any suggestions to make in reference to the matters referred to above are urged to bring suggestions before the Council of the Branch in order that any matter considered worthy of investigation may be forwarded on to the Advisory Council.

Chiropractors.

During the year a bill was introduced into Parliament to register chiropractors. The bill was defeated, although chiropractors were released from control under the provisions

of the *Physiotherapists Act*, and are now free to practise in the same way as other "quacks" in this State, without recognition and with similar limitations.

Model Common Form of Agreement.

In accordance with Clause 13 of the agreement existing with the United Friendly Societies Council and the Council of the Branch, a request was made for an increase of 1s. per quarter in the unit rate, and in December, 1949, it was agreed that this new rate should come into force on the first lodge night in June, 1950. At a conference held on May 11, 1950, the friendly societies submitted a new schedule for payment on a flat rate instead of a unit rate. A meeting of lodge surgeons has been called for June 20 to consider the proposals put forward and to agree on the action to be taken.

Hospital Policy.

The Council has as its policy the reintroduction of the means test and a substantial increase in the rate of payment by the Government to hospitals.

Pharmaceutical Benefits Act.

The Council has pressed for the early enactment of a new bill to enable the public to receive free as soon as possible the life-saving and expensive drugs as listed by the Formulary Committee. It considers that this (together with the implementation of the hospital policy stated above) would afford immediately a large measure of relief to the sick.

National Health Service Act.

With the change in the Federal Government an entirely new scheme was submitted for consideration. Discussions with the Minister of Health have been continued and the Council approved in principle with the scheme brought forward. The Federal Council at its meeting, which commenced on May 26 last at Brisbane, agreed in principle with the scheme, and assured the Minister of the willing cooperation of the profession in Australia. A general meeting of the members of the Branch, held on June 15, was addressed by Dr. J. G. Hunter and the various aspects of the proposed scheme were explained and discussed.

SOUTH AUSTRALIAN BRANCH OF THE BRITISH MEDICAL ASSOCIATION (INCORPORATED).

Library Account for the Year Ended December 31, 1949.

	£ s. d.		£ s. d.	£ s. d.
To Balance, December 31, 1948	96 5 2	By Subscriptions:		
„ University Grant	300 0 0	City	230 12 6	
„ Depreciation	1 0 0	Country	36 0 0	
		Junior	33 2 6	
				299 15 0
		Balance carried forward		97 10 2
	£397 5 2			£397 5 2

Balance Sheet as at December 31, 1949.

LIABILITIES.		£ s. d.	ASSETS.	£ s. d.	£ s. d.
Sundry Creditors		130 12 11	Furniture and Plant, January 1, 1949	59 10 2	
State Publicity Fund	337 16 6		*Plus* Additions during Year	223 4 3	
Less Expenses to Date	277 5 3			282 14 5	
		60 11 3	*Less* Depreciation	28 4 0	
					254 10 5
Lister Oration Fund (Invested in Savings Bank as *per contra*)		101 10 7	Delineascope, *less* Depreciation		4 0 0
British Medical Hall Company, Limited:			Projector, *less* Depreciation		6 0 0
Building Fund		696 14 1	Lister Medals and Dies		2 0 0
General Fund Account:			British Medical Hall Company, Limited: 167 Preference, 134 Ordinary £10 Shares at cost		3,044 10 0
Balance as at December 31, 1948	3,964 7 2		Australasian Medical Publishing Company, Limited:		
Publicity Expenses, 1948	46 17 0		5% Debentures at cost	30 0 0	
Surplus Income over Expenditure	242 13 11		3½% Series "E" Debentures at cost	600 0 0	
		4,253 18 1	Advances not yet converted to Series "E" Debentures	80 6 10	
					710 6 10
			Stocks on Hand		30 0 0
			Sundry Debtors:		
			British Medical Hall Company, Limited	153 14 5	
			Library Account	97 10 2	
			General	13 18 7	
					265 3 2
			Special Accounts:		
			Lister Fund, Savings Bank	101 10 7	
			Library Account, Savings Bank	1 15 3	
			Building Fund:		
			Savings Bank	432 4 1	
			Commonwealth Bonds	200 0 0	
					735 9 11
			Cash:		
			National Bank of Australasia	58 15 1	
			Savings Bank of South Australia	52 1 9	
			Commonwealth Savings Bank	73 13 1	
			In Hand	6 16 8	
					191 6 7
	£5,243 6 11				£5,243 6 11

F. C. W. DOBBIE, Secretary. F. L. WALL, Honorary Treasurer.

AUDITORS' REPORT.

We hereby report we have examined the Books and Accounts, as produced to us, of the South Australian Branch of the British Medical Association (Incorporated) for the year ended December 31, 1949. In our opinion the above Balance Sheet is properly drawn up so as to exhibit a true and correct view of the affairs of the Branch as at the above date according to the best of our information, the explanations given to us and as shown by the books produced.

Adelaide, May 8, 1950.

MUECKE, PICKERING & Co., Chartered Accountants (Aust.), Auditors.

Informal Discussions with the Chief Secretary.

Talks with the Chief Secretary have continued on an informal basis and have enabled the Council to discuss matters of mutual interest.

Honours to Members of the Branch.

The Council tenders its congratulations to Sir George Wilson, whose name appeared in the New Year Honours, and to Dr. H. M. Birch, C.B.E., also to Professor J. B. Cleland and Dr. H. H. E. Russell on completing fifty years' membership and thus attaining the life membership of the association, and to Dr. C. C. Jungfer, Dr. F. K. Mugford and Dr. P. W. Rice, who have been admitted to the grade of Serving Brother in the Venerable Order of the Hospital of St. John of Jerusalem.

(Signed) C. O. F. RIEGER,
President.

Financial Statement.

The financial statement, which is printed herewith, was adopted on the motion of Dr. F. L. Wall, seconded by Dr. C. Yeatman.

Election of Office-Bearers.

Dr. C. O. F. Rieger said that no nomination had been received for the office of president. He was voicing the sentiments of all members when he expressed his regret that Dr. G. H. Burnell had been unable to accept nomination owing to his illness. He paid a tribute to the work of Dr. Burnell on the Council and said that he hoped that at a later date Dr. Burnell might be able to accept the presidency. He wished Dr. Burnell a speedy return to health. In reply to a question, later on in the meeting, about the filling of vacancies, Dr. Rieger said that a legal opinion had been obtained and that vacancies would be filled by the new Council at its first meeting. The Council might make appointments to fill vacancies or hold elections. Dr. Rieger as past president would carry out the duties of president until the Council had met and determined the matter.

Dr. Rieger then said that the following had been elected office-bearers for the forthcoming year:

Vice-President: Dr. R. L. Thorold Grant.
Honorary Treasurer: Dr. F. L. Wall.
Honorary Medical Secretary: Dr. R. C. Angove.
Members of Council: Dr. G. L. Bennett and Dr. J. M. Pedler.

Dr. Rieger explained that only two nominations had been received for the three vacancies on the Council and said that the Council would deal with the matter at its next meeting.

Messrs. Muecke, Pickering and Company were elected auditors for the ensuing year.

The Retiring Members of Council.

On the motion of Dr. J. S. Verco, seconded by Dr. E. F. West, a vote of thanks to retiring members of the Council was carried.

Retiring President's Address.

Dr. C. O. F. Rieger read his retiring president's address entitled "Child Welfare in South Australia" (see page 353).

Dr. D. G. McKay proposed and Dr. L. L. Davey seconded a vote of thanks to Dr. Rieger for his address. The vote was carried by acclamation and Dr. Rieger replied.

SCIENTIFIC.

A MEETING of the New South Wales Branch of the British Medical Association was held on June 29, 1950, at the Robert H. Todd Assembly Hall, British Medical Association House, 135 Macquarie Street, Sydney, DR. G. C. HALLIDAY, the President, in the chair.

Medical Problems of Aging.

DR. S. G. NELSON read a paper entitled "The Medical Problems of Aging" (see page 355).

DR. G. A. ROSS read a paper entitled "The Medical Problems of Aging" (see page 358).

DR. A. T. EDWARDS referred to what Dr. Ross had said about the lack of usefulness arising out of the deterioration of old age; he said that they might perhaps consider the fact that the deterioration of old age often arose out of the lack of usefulness. Dr. Nelson's graphs showed that old women outnumbered old men—the death rate of men was greater; perhaps that was because women did not retire. Dr. Burlingame regarded many of the behaviour problems of old people as due to "vacuum" diseases. Men led a life of useful activity until the age of sixty-five years, and then suddenly retired; they had no guidance on how they were to develop alternative interests, and they had nothing left to them to fill in the long hours that had previously been filled in by work. The chairman had spoken about a possible change of heart in the community with regard to its sociological outlook; perhaps that might include recognition of the fact that the retirement of a man at the age of sixty-five years was not really in the interests of that man—it was in the interests of the younger people. It was to provide opportunities for work and promotion for the younger people. Retirement at that age had been regarded as an ideal in that respect, and was enforced in the public service. Dr. Edwards went on to say that during the second World War the Kaiser factory had created an elderly men's annexe. Those employed there were all aged over sixty-five years and up to the age of eighty years. The hours of work were what they wanted them to be and they were allowed to decide how many hours they could devote to the making of munitions. The effective output per hour per man in the annexe was only 15% less than that of the most skilled part of the factory. Actually the gross output was less, but the work was painstakingly done and so effective that returns to the annexe were much less. Therefore from the industrial point of view the present policy of retirement was wasting manpower and wasting men. Dr. Edwards said that from the preventive point of view the problem of providing adequate social recreation for the elderly had to be faced. In England efforts had been made in that direction. Many elderly people found themselves in a mental vacuum because they no longer had any community of interests; they were outcasts, even if they lived with devoted children and grandchildren. It had to be remembered that the aged found the very young strong meat, if it was necessary for them to take it day after day. Provision would have to be made for increasing numbers of those in the seventies and eighties, possibly along the line of clubs, where they could meet people with common interests and so would no longer feel themselves lonely outcasts.

DR. G. A. LAWRANCE said that the situation was good for those people who grew old comfortably and gracefully in their homes, looked after by their family; but the poorer members of the community were not so happily provided for. If they were indigent or unable to be cared for at home, they passed into State homes, and if they were still more unfortunate and lost their reason, they became inmates of mental hospitals. Dr. Lawrance said that they might be well cared for in the State institutions; but he had heard that the amusements in the State homes consisted of drinking methylated spirits, homosexuality, following the "dogs" and starting-price betting. In the mental hospitals such people were looked after well, but with some difficulty. It was difficult to care for a young person who had lost his reason; but when the problems of senility were added, it was almost impossible. Dr. Lawrance said that only that morning he had been persuaded to see a man, aged seventy-five years, who had gone to Broughton Hall for treatment. He was a charming person suffering from seventy-five years of age and nothing else. He was pleasant, dreamy and useless, but he had "sold himself" to the hospital and had become a boarder for one month. He said that he would be well at the end of that time. Dr. Lawrance did not think so. He said that if he had not admitted the patient to Broughton Hall because of his friendly and pleasant approach to his own situation, the next step would have been for the patient to find himself at the Reception House as a candidate for admission to a mental hospital. There should be someone to say a few words about the disposal of senile people who became insane purely because of their age. For those people who had to be certified insane through age, never having had to be so declared on a previous occasion, some special home should be provided, a division for males and one for females. The stigma of being certified insane would not fall on those people. In England there was such an institution, where the elderly who had lost their reason could live out their days free from certification. After all, they were only fulfilling their destiny. Dr. Lawrance said that he would like to hear more about the possibility of such an arrangement in Australia and particularly in New South Wales. Mental hospitals would be relieved of many of their harmless patients suffering only from the insanity of old age. In the hospitals there were many patients of the type to which he had referred. He asked whether anything was being done in that matter, which was of great interest to institutional psychiatrists.

DR. E. T. HILLIARD said he thought that Dr. Nelson had struck the right note in his remarks about correct diet, the exhibition of vitamins and attention to general health.

Dr. Hilliard asked Dr. Nelson if he could comment on the sodium iodide treatment of the aged, especially when confusion or early dementia was present. Dr. Hilliard had had some experience of the treatment, but did not want to make a definite statement on the subject. He had found in many such cases that microcytic anæmia was present; he thought it might be due to senescence of the red blood cells themselves, and not capable of being corrected. Such anæmia was not an adverse factor in the sodium iodide treatment; the number of red blood cells was not appreciably diminished by it. Referring to social responsibility for senile patients, Dr. Hilliard said that the awakening of society could come only through the medical profession. Dr. Lawrance had raised the question of senescent persons' having to be certified as insane. Dr. Hilliard said that under the English Act it was possible to have detention for definite periods of old people without certification. Such a provision had been sought by psychiatrists in New South Wales for a number of years; some amendment should be made in the legislation to permit such detention. Referring to Dr. Ross's comments on the stigma of insanity and the feelings of the patient's relatives and friends, Dr. Hilliard said that in many cases the relatives and friends asked why something could not be done—they realized that the disorder was only the normal process of aging. Dr. Lawrance had asked whether anything had been done. In a small way something had been done concerning the housing and care of old women by the After-Care Association in New South Wales; there was a place where such people could have a community life. An experiment was also being carried out by the present Minister for Health in building homes for the aged where they could live together in their declining years, and in a community free from association with younger generations. Other organizations in New South Wales were also working on the problem.

DR. N. E. KIRKWOOD joined issue with Dr. Lawrance and Dr. Hilliard on the question of certification; he thought theirs was a defeatist attitude. He said that in a country with respect for freedom, a person's liberty could not be taken away unless he appeared before a court. Old people could not be kept off the street if they wanted to go onto the street, unless some duly constituted court gave permission for them to be so restrained. Dr. Kirkwood asked why it was such a terrible disgrace to have a relative certified, and why it was any less of a disgrace for the usefulness of one's mind to be destroyed by arteriosclerosis at an earlier age than by old age. The attitude of the medical profession should not be one of agreement that such certification was a disgrace; they should deny that it was a disgrace. Dr. Kirkwood said that in every mental hospital there were many people who had been certified as insane, and yet made excellent nursing attendants under control. In an old women's ward much of the work was done by people who were themselves insane; they made good attendants. If all the unfortunate senile people were to be put into a hospital where all the nursing attention had to be given by highly trained people, the whole situation would be made much more difficult. Such things had to be considered before the question of creating special hospitals was decided. There was yet another point in connexion with senility, and that was the question of fractures. When a senile patient fell and sustained a fracture of the femur, the question was, did he fall and break his femur, or did his femur break and he fall? Dr. Kirkwood believed that in many cases the first thing that happened was that the senile bone broke, and the patient fell as a result. That was an important point in the care of old patients.

DR. W. E. FISHER said that he had hoped to hear Dr. Nelson tackle the problem of aging in the complete absence of somatic disease. Dr. Nelson had covered the practical aspects comprehensively. Dr. Fisher said that geriatrics was not a new branch of medicine, but the changing distribution of the population was causing it to become more recognized. He was not familiar with what was being done in England, but by correspondence he had some knowledge of what was being done in America. In the special hospitals for the aged that they were developing, they were becoming most enthusiastic about the increasing of usefulness and residual abilities by patient physiotherapy and psychotherapy—so much so that one was led to believe that the establishment of such institutions in Australia was most desirable. It should be emphasized that the institutions were hospitals for treatment, as distinct from homes in which the elderly could live. Dr. Fisher said that he was enthusiastic, but had several warning notes to sound. In the first place, it would be a pity if the idea was pushed so far that the population was tempted to scrap one more of its individual responsibilities. In the second place, governmental expenditure would be much increased. On the other hand, a great deal of such work was time-consuming and could not be done in the home; it required an institution. Dr. Fisher then referred to Dr. Nelson's comments on the group of ex-servicemen with recurrent bronchitis in repatriation hospitals. Dr. Fisher said that the stay in hospital of people with chronic illnesses was not limited to the winter months; there were also those with hemiplegia and arthritis who occupied beds indefinitely because they could not be decently discharged from hospital. Dr. Fisher felt that, even if allowance was made for the fact that the population took on such responsibility as it could, and that practitioners should train themselves to cope with those particular problems, there was room for special hospitals for the time-consuming efforts that were rewarded. It was part of the duty of the medical profession to indicate to the Government the necessity for the development of its policy.

DR. E. S. MORRIS said that the question of certification or not of old people was not quite so simple as it looked. He had considered it officially for a good while and from every angle; but as Dr. Kirkwood had pointed out, the real question was what one was going to do to control such people. If they were put into a mental hospital without certification, that would make no difference to the stigma; they would still die in the mental hospital and would be regarded as the equivalent of having been certified. If they were put in a special hospital, then they would have to be given all the safeguards of the legal provisions of the *Lunacy Act* for the liberty of the subject. The Crown Law authorities were extremely reluctant to sponsor any proposal whereby an individual could be kept under control for an unlimited period without his consent, and without proper safeguards by the court or some authority which would direct him into the institution. Dr. Morris then referred to the remarks made by Dr. Lawrance about State hospitals and homes, which he thought should not be allowed to go unchallenged. Dr. Morris said it was obvious that Dr. Lawrance had never been inside a State hospital or home. The Lidcombe State Hospital and Home, for example, had 1000 hospital beds and rendered excellent service; the patients there received satisfactory medical treatment. The home section housed old people, many of whom had unfortunately grown old in sin; their only interest was in getting drunk, drinking methylated spirits and following the "dogs" and horses. Penniless on reaching old age, such people gradually drifted to the State homes—and Dr. Lawrance had asked: "What do you do for them?" Dr. Morris said that an attempt was made primarily to keep them off the methylated spirits, but it was too late to break their habits and impossible to reform them. He would be glad if someone could solve the problem for them. Dr. Morris agreed with Dr. Nelson that people should be taught to have hobbies. He mentioned the terrible example of some members of the medical profession, who on their retirement had no hobbies, could not even talk "shop" and became absolute bores. Hobbies were most important; but a large section of the community on retirement had developed no interests outside their daily work, except like the old people in the home section at Lidcombe. It was impossible to convert people without wholesome interests or with depraved tastes, in their old age, into little angels.

MR. A. LEWIS, a medical student, had two questions to ask. The first had to do with the chairman's remarks about the greater burden created by the increase in the retiring age from sixty to sixty-five years. Dr. Edwards in that connexion had spoken of retirement to allow promotion of the young people coming on. Mr. Lewis asked whether it was right that such a burden should be laid on the young people. Mr. Lewis also asked Dr. Nelson whether he could give some information on genetical considerations bound up with old age.

Dr. Ross, in reply, said that he disagreed with what Dr. Edwards had said. He had not said in his paper that old age lacked usefulness; the old person could be of use in the home up to a certain point, but beyond that point he became a liability. Referring to employability, Dr. Ross said that these people had passed the employment age, and this question belonged to the discussion on therapeutics which, as he had pointed out, was beyond the scope of his paper. Referring to what had been said on the certification of old people, Dr. Ross said that the certification of a person as insane just because he was old did create many problems, as had been shown by the case he had quoted in his paper. Therefore he agreed up to a point with Dr. Kirkwood and Dr. Morris, but only up to a point. The question was whether a person should be certified as insane; the word "insane" was the crux of the whole matter. To deprive a person of his liberty raised a vital question, particularly if

he was a British subject. Therefore an Act of Parliament had to be invoked to protect the person who arranged the detention. However, Dr. Ross thought it could be done without the detained person being labelled insane. Dr. Ross agreed with Dr. Kirkwood that there should be no stigma attached to senile insanity. Insanity was a mental illness, and illness was no respecter of persons. The general population did not look at the matter that way, but had other ideas due to ignorance. Correction had to begin with the medical profession. Dr. Fisher was right in his attitude to the study of geriatrics; it was a subject to which the medical profession would have to devote more and more thought as time went on. Old age and its behaviour problems would have to be dealt with fairly widely, both in the teaching of students and in post-graduate medicine.

Dr. Nelson, in reply to Dr. Edwards, said he agreed that many of the problems under discussion were really "vacuum" problems. Referring to the success of the Kaiser project, Dr. Nelson said that similar results had been obtained in England in sheltered workshops, where people who were unemployable in the ordinary way were given an opportunity to work. There was one place in Scotland where sufferers from disseminated sclerosis, hemiplegia, ataxia and such conditions were employed. Such experiments had shown how it was possible to employ people who had been regarded as unemployable. Dr. Nelson agreed with Dr. Lawrance that the poorer members of the community were in difficulties about the problems of aging; that was one of the aspects that should be stressed. Many who attended the out-patient department eked out a miserable existence at the mercy of a tyrannical landlady; their rent consumed most of their pension, and the rest went in inadequate food. They suffered from much chronic ill health (which was probably preventible) because of their economic situation. Dr. Hilliard had asked about sodium iodide. Dr. Nelson said that he had tried it at the Repatriation General Hospital, Concord, mostly in cases of cerebral damage and in one case of senile dementia. No serious toxic manifestations had occurred. The series was too small to allow definite conclusions to be drawn, but the drug had a favourable effect up to a point. Most of the patients treated were of a type which could not be much "upgraded" owing to cerebral damage; they had had a cerebral vascular catastrophe. In reply to Dr. Fisher's remarks about the problems of aging apart from illness, Dr. Nelson said that biological death in old age was extremely rare, as he had said in his paper; there was a shadowy borderline between people who suffered from age changes only and those who had illness as well. Much work had been done on endocrinology *et cetera*, and on the role of the pituitary in mimicking the changes of senescence. They had many pieces of the mosaic, but not enough to produce the pattern. Referring to Dr. Morris's remarks about the medical wing and the home wing at the Lidcombe institution, Dr. Nelson said that it was obviously necessary to influence the people while they were still young, so that they would grow into nice old people. Dr. Morris's problem at the moment was that nobody had influenced the old men in the home while they were young enough. In reply to Mr. Lewis's question about genetics, Dr. Nelson said that he could not give information about their significance. His intention had been to put the medical and social problems of aging rather than to discuss its genetic problems, though he was certain that genetic factors determined whether or not people were to die at an early age from certain types of disease. In reply to Mr. Lewis's question about the age of retirement and the rights of the young *versus* the rights of the old, Dr. Nelson said that the problem would solve itself in the following way: the burden would become so intolerable on the young people that they would be glad to allow the aging to work longer.

Dr. Halliday, from the chair, thanked the speakers for their papers, and those who had joined in the discussion.

Correspondence.

A CASE OF CHRONIC MANIA TREATED WITH LITHIUM CITRATE AND TERMINATING FATALLY.

SIR: In publishing the details of his unfortunate experience with lithium citrate in the treatment of chronic mania, Dr. E. L. Roberts has done us a service (THE MEDICAL JOURNAL OF AUSTRALIA, August 12, 1950), but it would be a great pity if it were to create a distorted impression.

Since Cade's article late in 1949, lithium carbonate has been given to over 50 patients at this hospital; some have taken it continuously for nearly twelve months; about a dozen patients have been able to leave hospital and, for many months, have continued to take lithium either under my out-patient care or under supervision of their own medical practitioners. The dose has usually been 10 grains three times daily. This has rarely been exceeded, but frequently a smaller dose has been necessary or sufficient. As a measure of our experience with lithium, it may be of interest to state that already 13 pounds of the carbonate and two pounds of the citrate have been consumed by the patients at this hospital.

Minor toxic manifestations are not uncommon, but I have never yet seen any toxic symptoms which failed to clear up within twenty-four to forty-eight hours after the patient stopped taking the drug. I have not, further, seen any patient develop an intolerance to a dose which has previously been tolerated, and, in the case of patients on prolonged maintenance treatment, there has been nothing to suggest that the general health is being impaired.

The results of treatment in cases of mania have been encouraging, the relative absence of effect in cases of excitement or elation of different origin has been provocative. It is already possible to state, unequivocably, that the cases treated at this hospital amply confirm the value of Cade's discovery, which must stand as an important original contribution to the treatment of psychiatric patients.

It would be a pity if Dr. Roberts's communication were to create an unfavourable impression which, I am sure, he would not intend.

Yours, etc.,

J. V. ASHBURNER,
Senior Medical Officer.

Mental Hospital,
Sunbury,
Victoria.
August 17, 1950.

STREPTOMYCIN AND PHARMACEUTICAL BENEFITS.

SIR: With the appearance of streptomycin on the free list under the *Pharmaceutical Benefits Act*, the curious position arises that this is now the cheapest "medicine" that can be given in the treatment of tuberculosis. There appears to be a trend, despite numerous warnings from England and America, towards exhibiting this antibiotic in all cases of pulmonary tuberculosis on the specious but quite erroneous pretext that "it can't do any harm and it may do some good". It is the fear that this trend may now be accelerated which prompts us to draw the attention of the medical profession in Australia to the report of the Committee on Medical Research and Therapy of the American Trudeau Society on the "Current Status of Drug Therapy in Tuberculosis", which appeared in the *American Review of Tuberculosis* in March of this year. This committee is recognized as the foremost authority in the world on this particular subject. Their findings should be read in full, but we extract some pertinent statements from their report:

> The Committee believes that in general it is desirable to withhold drug therapy if other satisfactory therapy for a tuberculous condition is available, and looks with disfavour on the practice of utilizing drug therapy prior to institutional care, or as an alternative to adequate bed rest, collapse therapy, or other surgical treatment, in the hope that such procedures may be avoided.
>
> Present evidence indicates that combined therapy (streptomycin and P.A.S.) will merely reduce the incidence of streptomycin resistance (as compared to that observed when streptomycin alone is used for a comparable period of time), not that it will prevent its occurrence in all instances. Individualization of the drug therapy of tuberculosis is desirable and even essential, both according to the tuberculous condition to be treated and according to the severity of the individual case.
>
> It is important to exercise discriminating judgement in the timing of the use of the drug as an adjunct to other procedures.
>
> By reducing the incidence, or delaying the emergence, of streptomycin resistance, combined therapy with streptomycin and P.A.S. shows promise of decreasing to a significant degree the sharp therapeutic limitations which exist when streptomycin alone is employed. It should be emphasized, however, that the problem of streptomycin resistance has by no means been eliminated. Hence careful integration of streptomycin with

other forms of therapy, and careful planning of the over-all therapeutic attack, continue to be matters of great importance if optimum results are to be achieved. This principle applies in general to all forms of tuberculosis in which drug therapy is indicated.

In conclusion, we should like to quote from the Editorial in the *British Medical Journal* of November 12, 1949:

> In advanced phthisis with extensive cavitation streptomycin may sufficiently improve the condition to make possible a thoracoplasty which could not have been undertaken before, but it should not be used until plans for this have been completed. It may be very difficult to resist the demands of patients and relatives for the new "wonder drug", but if these demands are infrequently resisted and treatment of tuberculosis with streptomycin becomes at all indiscriminate the ultimate effects will be disastrous.
>
> Several instances of infection with streptomycin-resistant bacilli in contacts of treated cases have already been observed in the United States. It is unfair to the whole community to use streptomycin in patients with open tuberculosis unless for good and well-defined reasons. The decision to use it is emphatically for the expert only.
>
> Doctors possess in streptomycin something quite peculiar and not to be regarded in the same light as any other drug. It should be reserved for use only on the clearest indications and under the closest observation. Every patient treated unsuccessfully brings nearer the day when no patient will be able to be treated with streptomycin at all.

As there is no substitute for streptomycin on the scientific horizon, we feel no further comment is necessary.

Yours, etc.,

COTTER HARVEY.
G. BRUCE WHITE.
C. G. BAYLISS.

Sydney,
August 15, 1950.

Obituary.

ALFRED MEILLON LANGAN.

WE are indebted to Dr. A. T. Nisbet for the following appreciation of the late Dr. Alfred Meillon Langan.

A. M. Langan was just on sixty when, after warnings spread over many years, death overtook him. These signs of shortening life at no time made any difference to his care and thoughtfulness of those people of Cairns who claimed the attention of this busy general practitioner. "Freddie" Langan qualified from the University of Sydney in 1915, and with that large percentage of recent graduates immediately went abroad with the first Australian Imperial Force. Throughout he served in the front battle area, never wishing any base appointment, just as he never desired to be anywhere but in the front line of medical practice as a well-honoured and respected general practitioner. Langan on his discharge joined Dr. Jim Jamieson, who was then superintendent of the Cairns and North Coast Hospital, and later took Jamieson's place and carried on in charge of the hospital for nearly twenty years. He quickly worked his way into the public life of North Queensland, became Government Medical Officer, Repatriation Commission District Medical Officer, and President of the Cairns Branch of the British Medical Association. Amongst lighter pursuits he was President of the Cairns Golf Club, of the Cairns Bowling Club and of the Northern District Racing Association. He was a foundation member of the local Rotary Club and twice occupied the presidential chair. His love of life, his happy wit and his *camaraderie* naturally fitted him for all these varied posts. During the recent world war he, like most other medical men who were forced to stay at home, worked harder than ever he did when in uniform in 1914-1918. Langan was coordinator of medical services for the Far North, made it his business to examine practically all the recruits from the Cairns district and

DISEASES NOTIFIED IN EACH STATE AND TERRITORY OF AUSTRALIA FOR THE WEEK ENDED AUGUST 12, 1950.[1]

Disease.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Northern Territory.[2]	Australian Capital Territory.	Australia.[3]
Ankylostomiasis	*	..	1(1)	..	1	..	..	..	2
Anthrax	*	..	..	..	..	..	..	..	..
Beriberi	*	*	*	*	*	*	..	*	..
Bilharziasis	*	..	..	..	..	..	..	..	..
Cerebro-spinal Meningitis	3(3)	1	..	..	1(1)	..	..	..	5
Cholera	..	..	..	..	..	..	..	..	..
Coastal Fever(*a*)	*	*	*	*	*	*	*	*	..
Dengue	*	*	*	*	*	*	..	*	..
Diarrhœa (Infantile)	..	..	9(9)	..	..	..	..	..	9
Diphtheria	11(6)	1(1)	5(2)	..	2(1)	1(1)	..	..	20
Dysentery (Amœbic)	*	..	..	..	..	..	..	..	..
Dysentery (Bacillary)	*	5(5)	6(6)	..	3(1)	..	..	1	15
Encephalitis Lethargica	..	1	..	..	..	..	..	..	1
Erysipelas	*	*	*	2(1)	*	*	..	..	2
Filariasis	*	..	..	..	..	..	..	..	..
Helminthiasis	*	..	*	*	*	*	*	*	..
Hydatid	*	1	*	*	..	*	*	..	1
Influenza	*	*	*	..	*	*	*	*	..
Lead Poisoning	*	..	..	..	*	*	*	*	..
Leprosy	..	..	..	..	7	..	..	..	7
Malaria(*b*)	*	..	*	167(125)	..	*	..	..	..
Measles	..	..	..	..	..	..	..	..	167
Plague	..	..	..	..	..	..	..	..	..
Poliomyelitis	7(3)	2(1)	..	9(9)	1(1)	..	..	..	19
Psittacosis	*	..	*	..	*	*	*	*	..
Puerperal Fever	..	..	..	..	..	..	..	..	..
Rubella(*c*)	*	*	*	*	1(1)	*	..	..	1
Scarlet Fever	6(3)	11(8)	5(3)	11(7)	6(6)	5	..	1	45
Smallpox	..	..	..	..	..	..	..	..	..
Tetanus	*	..	..	*	*	*	*	*	..
Trachoma	*	..	*	*	*	*	*	*	..
Tuberculosis(*d*)	36(32)	14(8)	8(7)	11(8)	6(4)	3(2)	..	..	78
Typhoid Fever(*e*)	..	..	..	..	..	1	..	..	1
Typhus (Endemic)(*f*)	..	..	..	..	..	..	..	..	..
Undulant Fever	..	..	..	..	1(1)	..	..	..	1
Weil's Disease(*g*)	*	*	*	*	*	*	*	*	..
Whooping Cough	*	*	*	..	*	*	..	..	..
Yellow Fever	..	..	..	..	..	..	..	..	..

[1] The form of this table is taken from the *Official Year Book of the Commonwealth of Australia*, Number 37, 1946-1947. Figures in parentheses are those for the metropolitan area.
[2] Figures not available.
[3] Figures incomplete owing to absence of returns from the Northern Territory.
* Not notifiable.
(*a*) Includes Mossman and Sarina fevers. (*b*) Mainly relapses among servicemen infected overseas. (*c*) Notifiable disease in Queensland in females aged over fourteen years. (*d*) Includes all forms. (*e*) Includes enteric fever, paratyphoid fevers and other Salmonella infections. (*f*) Includes scrub, murine and tick typhus. (*g*) Includes leptospiroses, Weil's and para-Weil's disease.

was in the category of almost a tin god to all the old Diggers. "Alf" has gone to join a happy band. When one thinks of the friends of his university days one can realize how lovable a type of person he was. Amongst other accomplishments he was one of the foundation life savers of the Bondi Surf Club and on his visits to Sydney always made sure to pay that club a call. Perhaps a short anecdote may end this note. In 1917, on leave, the two of us were, of all things, punting on the Thames at Cookham. From one punt to another I called: "Freddie, when are you due back in France?" The answer came back: "Let me look"; and hastily pulling a battered pay book from his tunic breast pocket, he said: "By gee, it was yesterday." For thirty years North Queensland was fortunate in having A. M. Langan to guide them not only in medical, but in many other domestic problems that are the lot of a conscientious general practitioner.

CALLANDER WADE SINCLAIR.

WE are indebted to Dr. Douglas Anderson for the following note of appreciation of the late Dr. Callander Wade Sinclair.

Dr. C. W. Sinclair was a stalwart of the Royal North Shore Hospital of Sydney—if the word stalwart can be applied to one who was so mild-mannered and delicate—during the period of its development from a suburban into a metropolitan hospital. I became his resident nearly twenty years ago when he was assistant physician to kind old Dr. R. S. Enever Todd. He was then a slender young man of medium height, with thinning, slightly rufous hair and gold rimless spectacles. He always did rounds with Dr. Todd: the two collaborated over every patient in the frankest and sincerest way, with a humility at the bedside which I found somewhat startling at first after the specialists' authoritative demeanour at the hospital where I was a student, but which I am sure did me a lot of good. Dr. Sinclair was a bachelor of arts and of science and had graduated in medicine in 1916. He was a very able general practitioner physician, and we residents learned a great deal from him about the management of the severer common ailments, the roast and boiled of general practice, for which, alas, most metropolitan hospitals of today have little or no room. Dr. Sinclair had by far the largest medical out-patient clinic, which I took over several years afterwards: a large assortment of elderly, decrepit, unhappy people had gravitated to it, and they greatly lamented his promotion to the full staff. The art he practised with them so conscientiously has been lately "discovered" and called "geriatrics". Dr. Sinclair's private practice was at Lane Cove: I have heard many comments about his practical solicitude for his patients, and up till a few years ago he worked very hard and successfully.

JAMES EDWARD MULCAHY.

WE regret to announce the death of Dr. James Edward Mulcahy, which occurred on August 7, 1950, at Oakleigh, Victoria.

Notice.

MEETING ON BLOOD TRANSFUSION.

THE National Council of the Australian Red Cross Society through its National Blood Transfusion Committee has arranged a scientific meeting on blood transfusion, which will be held at 8 p.m. on September 7, 1950, in the Maitland Lecture Theatre, Sydney Hospital, Sydney. The programme will be as follows: "Prophylaxis of Rubella in Pregnancy", Dr. Stewart Gray Anderson (Melbourne); "The Treatment of Hæmolytic Transfusion Reactions", Dr. A. W. Morrow (Sydney); "Hæmoglobin Levels in New South Wales", Dr. R. Walsh (Sydney). All members of the British Medical Association are invited to attend.

Nominations and Elections.

THE undermentioned has applied for election as a member of the New South Wales Branch of the British Medical Association:

Mackay, Elizabeth Kathleen, M.R.C.S. (England), L.R.C.P. (London), 1922, The L.M.S. Mission House, Port Moresby, Papua, New Guinea.

Diary for the Month.

SEPT. 5.—New South Wales Branch, B.M.A.: Organization and Science Committee.
SEPT. 6.—Victorian Branch, B.M.A.: Branch Meeting.
SEPT. 6.—Western Australian Branch, B.M.A.: Council Meeting.
SEPT. 7.—New South Wales Branch, B.M.A.: Special Groups Committee.
SEPT. 7.—South Australian Branch, B.M.A.: Council Meeting.
SEPT. 8.—Queensland Branch, B.M.A.: Council Meeting.

Medical Appointments: Important Notice.

MEDICAL PRACTITIONERS are requested not to apply for any appointment mentioned below without having first communicated with the Honorary Secretary of the Branch concerned, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.1.

New South Wales Branch (Medical Secretary, 135 Macquarie Street, Sydney)—All contract practice appointments in New South Wales.

Victorian Branch (Honorary Secretary, Medical Society Hall, East Melbourne): Associated Medical Services Limited; all Institutes or Medical Dispensaries; Australian Prudential Association, Proprietary, Limited; Federal Mutual Medical Benefit Society; Mutual National Provident Club; National Provident Association; Hospital or other appointments outside Victoria.

Queensland Branch (Honorary Secretary, B.M.A. House, 225 Wickham Terrace, Brisbane, B17): Brisbane Associated Friendly Societies' Medical Institute; Bundaberg Medical Institute. Members accepting LODGE appointments and those desiring to accept appointments to any COUNTRY HOSPITAL or position outside Australia are advised, in their own interests, to submit a copy of their Agreement to the Council before signing.

South Australian Branch (Honorary Secretary, 178 North Terrace, Adelaide): All Lodge appointments in South Australia; all Contract Practice appointments in South Australia.

Western Australian Branch (Honorary Secretary, 205 Saint George's Terrace, Perth): Norseman Hospital; all Contract Practice appointments in Western Australia. All government appointments with the exception of those of the Department of Public Health.

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